PHYSICAL THERAPISTS' BELIEFS ABOUT WHAT FACILITATES SUCCESSFUL PATIENT OUTCOMES

A Dissertation
Submitted to
the Temple University Graduate Board

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DOCTOR OF PHILOSOPHY

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by
Sachiko Komagata
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ABSTRACT

Title: Physical Therapists' Beliefs About What Facilitates
Successful Patient Outcomes
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This thesis has examined physical therapists' (PTs') beliefs about successful patient outcomes (SPO). Literature on PTs' beliefs about SPO is extremely limited and outcomes are not clearly defined. The purpose of this research was to obtain a deeper understanding of PTs' beliefs about SPO by asking: 1) what are PTs' beliefs about factors that facilitate SPOs; 2) what are PTs' beliefs about factors that interfere with SPOs; and 3) what factors influenced the formation of PTs' beliefs. A subquestion was whether there were any differences between novice and experienced PTs.

Qualitative research with a grounded theory approach was selected. The thirteen participants' data were gathered through two in-depth individual interviews, artifacts, and a demographic data form. Analyses involved multiple levels of coding, writing an interviewee summary for each participant, and developing themes. Comparative analyses within each group and between novice and experienced PTs groups were performed.

The results indicated that novice PTs believed that factors that facilitated outcomes were patient motivation, medical status/learning ability, and family support; whereas experienced PTs responded that patient motivation, patient-PT relationship, and PT's clinical knowledge and skills facilitated outcomes. Novice PTs appeared to emphasize the patient's responsibility in his or her own care, whereas experienced PTs appeared to perceive shared responsibility. Novice PTs' interfering factors were a lack of patient motivation, poor medical status/learning ability, and a lack of health care access. Experienced PTs responded with a lack of patient motivation, poor medical status, and a lack of family support. Finally, the main influencing factor for all PTs' belief formation was learning in a clinical context. Personal experience appeared to add personal knowledge, whereas the professional experience added craft knowledge. All experienced PTs and one novice PT changed their beliefs about SPO over time. It can be postulated that how PTs' experience influences their beliefs was through understanding the self and others, which is then applied in actual experience, and by reflecting on their experience, their understanding becomes deeper, thus belief change occurs. This exploratory qualitative research provided rich descriptive data for continuation of the hypothesis-building regarding PTs' beliefs about SPO through theoretical sampling.

DEDICATION

To the memory of my mother, Miyako, and my brother, Yoshio,

who made me more appreciative of

every little kindness individuals bring to each other

and our provisional lives we all assume so indestructible.

ACKNOWLEDGEMENTS

I would like to thank Dr. Laurita M. Hack for being my advisory committee chair, in spite of my choice of an open-ended research question with significant uncertainties involved. She guided me through various critical points with a clear big picture as I, at times, worked at a microscopic level amid the sea of data. I thank Dr. Kim Nixon-Cave, whose own recent dissertation experience gave me valuable perspective. I thank Dr. Katherine F. Shepard who gave me the courage to trust my own interpretation. She critiqued my writing in writing most thoroughly from start to finish. I can't thank enough all my committee members who supported, nurtured, and guided me to transform myself to be a more reflective thinker throughout this dissertation research endeavor. I truly believe that the journey we shared was worth taking. I would also like to thank my external examining committee members, Dr. Moya Kinnealey for her contribution in enriching my dissertation defense, and Dr. Mary Barbe for her critical questions and suggestions during my proposal defense.

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TABLE OF CONTENTS

Page

ABSTRACT iv
DEDICATION vi
ACKNOWLEDGEMENTS vii
LIST OF TABLES xiv
LIST OF FIGURES xvi

CHAPTER

1. INTRODUCTION 1
    Health Care Outcomes 1
    The Nature of Beliefs 3
    Physical Therapists' Beliefs 4
    Statement of the Problem 6
    Initial Conceptual Framework 7
    Specific Research Questions 10
    Significance of the Study 10
    Organization of the Dissertation 12

2. LITERATURE REVIEW 15
    Chapter Overview 15
    Literature Review Strategy 15
    Beliefs, Knowledge, and Behaviors 16
        Health Care Professionals' Beliefs 20
        Use of Knowledge in Health Care 27
        Patients' Beliefs 31
    Outcome Research 35
        Limited Outcome Measures and Interventions 35
        Motivation Factor on Outcomes 37
        Health Professional-Patient Relationship 40
        Humanistic Interventions and Outcomes 46
    Connection Between Therapists' Beliefs and Outcomes 49
    Chapter Summary 53

3. METHOD 58
    Chapter Overview 58
    Rationale for the Qualitative Research Method 58
    Rationale for the Use of the Grounded Theory Approach 60
    Methodological Rigor 62
        Criteria Based on Research Paradigm 62
        Trustworthiness 62

Dependability/Consistency 63
Triangulation 63
Peer/Expert Examination 64
Investigator’s Position 64
Coding Reliability 65
Selection of Participants 66
Tools for Data Collection and Data Management 67
Interviews 68
Artifacts 69
Demographic Data Form 70
Field Notes and Reflective Memos 70
Consent Form 71
Data Management Software 72
Data Collection Procedures 73
Participant Recruitment 73
Interview Process 74
Postinterview Process 75
Modifications to Data Collection Procedures 76
Data Analysis 78
Data Analysis Process Overview 78
Unit of Analysis 80
Coding 81
Open Coding 81
Axial Coding 82
Interviewee Summaries 86
Theme Emergence 86
Chapter Summary 87

4. RESULTS 89
Chapter Overview 89
Participant Characteristics 90
Facility Characteristics 90
Participant Demographic Characteristics 91
Novice PTs 91
Experienced PTs 93
Coding Result 95
Interviewee Summary Result 100
Composite Narrative of the Novice PTs’ Beliefs 100
CC1: Facilitating Factors For Successful Patient Outcomes 101
Theme 1: Patient Motivation is Important Ingredient for SPO... 102
Theme 2: Patient Family as a Source of Information 103
Theme 3: Patient Family as Physical & Psychosocial Support During and After Discharge 104

        Theme 4: The Better Patient Medical Status the Better the Outcome 105
        Summary of Themes 106
    CC2: Interfering Factors for Successful Patient Outcomes 106
        Theme 1: Experienced Unmotivated Patients 106
        Theme 2: Emphasize Patient's Responsibility to Get Better 109
        Theme 3: Comorbidities Complicate Patient Progress 110
        Theme 4: Lack of Patient's Learning ability limits SPO 110
        Theme 5: Lack of Health Care Access Compromising Patient Rehabilitation Potential 111
        Summary of Themes 112
    CC3: Conceptualization of Successful Patient Outcomes 113
        Theme 1: Variability in Plasticity of Beliefs About SPO 113
        Theme 2: Independence Through Functional Improvement 115
        Theme 3: Rehabilitation Placement From Acute Care Setting 115
        Theme 4: High Patient Motivation Contributed to Most Memorable SPO 116
        Summary of Themes 118
    CC4: Influencing Factors for Belief Formation 118
        Theme 1: Both Positive and Negative Clinical Education Experience Influencing Current Beliefs 120
        Theme 2: Clinical Experience as a Primary Source of Learning about SPO 121
        Theme 3: Family Illness Changing Perspectives About Illness and the Role of PT 123
        Theme 4: Family Values Influencing on PTs' Beliefs 124
        Theme 5: Applying Principles of Other Work Experience to PT Practice 124
        Summary of Themes 125
    Summary of Findings From Novice PTs' Beliefs 125
Composite Narrative of the Experienced PTs' Beliefs 130
    CC1: Facilitating Factors for Successful Patient Outcomes 130
        Theme 1: Patient Motivation is Important Ingredient for SPO 131
        Theme 2: Patient-PT Relationship is Important for SPO 132
        Theme 3: PT is Aware of One's Own Specific Contributions to SPO 133
        Summary of Themes 135
    CC2: Interfering Factors for Successful Patient Outcomes 137
        Theme 1: Experienced Unmotivated Patients 137
        Theme 2: Comorbidities Complicate Patient Progress 138
        Theme 3: Lack of Family/Social Support Lead to Compromised Discharge and Outcomes 139
        Summary of Themes 141
    CC3: Conceptualization of Successful Patient Outcomes 141

        Theme 1: Beliefs About SPO Definitely Changed 141
        Theme 2: Return to Self, Self-Defined Quality of Life, is SPO . 143
        Theme 3: PT Experiencing Immense Challenges in Attaining SPO 145
        Summary of Themes 147
    CC4: Influencing Factors for Belief Formation.................................... 149
    CC4: Influencing Factors for Belief Formation.................................... 149
        Theme 1: Value Continuous Learning Especially Through Clinical Experience 149
        Theme 2: Value Sharing Skills, Knowledge, and Beliefs with Others 151
        Theme 3: Family Member's Illness as a Reminder for Patient's Own Values 153
        Theme 4: Family Upbringing Influencing PTs' Beliefs 155
        Summary of Themes 156
Summary of the Findings from Experienced PTs' Beliefs 158
Comparative Analyses Between Novice and Experienced PTs......................... 161
    CC1: Facilitating Factors for Successful Patient Outcomes.................. 161
    CC2: Interfering Factors for Successful Patient Outcomes 164
    CC3: Concept of Successful Patient Outcomes 166
    CC4: Influencing Factors for PTs' Belief Formation 168
Chapter Summary 170

5. DISCUSSION 172
PTs' Beliefs About Factors Influencing Successful Patient Outcomes 173
    Patient Motivation... 173
    Patient Medical Status and Learning Abilities.. 176
    Patient Family and Social Support... 177
    Health Care Access 178
    Patient-PT Relationship 178
        Promoting Patient Motivation.. 179
        Humanistic Interventions 180
        Resolving Value Discrepancy.. 182
    Clinical Knowledge and Skills... 183
    Other Known Factors that Weren't Robust or Absent in My Study....... 184
Conceptualization of Successful Patient Outcomes.. 186
    Intended Successful Patient Outcomes 186
    Most Memorable Cases Revealing PTs' Self Knowledge..................... 187
Influencing Factors for PTs' Belief Formation... 189
    Learning in Clinical Context... 189
    Family Illness, Values, Upbringing and Other Influences...................... 190
    Other Known Factors that Weren't Robustly Present in My Study........ 192
Limitations of the Study.. 195
Future Research 196

Continuation of Hypothesis Building 197
Secondary Data Analysis 199
Post Hoc Analysis Using Selective Coding 199
PT's Understanding of Self, Patients, and Others 200
PT's Applying Knowledge and Skills in Clinical Practice 201
PT's Reflecting to Deepen Understanding 204
Themes Through Post Hoc Analysis 206
PT's Understanding of Patients, One's Own Self, and Others 210
PT's Applying Knowledge and Skills in Clinical Experience 211
PT's Reflecting to Deepen Understanding 212
Toward a Theory of PTs' Beliefs About Successful Patient Outcomes 215
Hypothesis Testing 219
Chapter Summary 220

6. RECOMMENDATIONS AND CONCLUSION 222
Recommendations from the Study 222
Physical Therapy Clinicians 222
Physical Therapy Educators 226
Conclusion 228

REFERENCES CITED 232

APENDIXES

A. AUDIT TRAIL 246
B. PLANNED INTERVIEW QUESTIONS 247
C. DEOMOGRAPHIC DATA FORM 250
D. INFORMED CONSENT 252
E. TEMPLE UNIVERSITY IRB CERTIFICATION 257
F. ARTIFACT FIELD NOTE 258
G. OPEN AND AXIAL CODING 261
H. INTERVIEWEE SUMMARIES 272

LIST OF TABLES

Table Page

1. Interrater Percent Agreement, Kappa Statistic, and Significance Based on Two Fault-Tolerance Settings 84

2. Axial Codes with Most Disagreement Between Two Coders 85

3. Novice PTs' Demographic Characteristics: Work & Education 92

4. Novice PTs' Demographic Characteristics: Personal Experience & Others 93

5. Experienced PTs' Demographic Characteristics: Work & Education 94

6. Experienced PTs' Demographic Characteristics: Personal Experience & Others 95

7. Axial Code Category Definitions and Corresponding Open Codes 96

8. Interviewee Summary Headings and Corresponding Data Sources 101

9. Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 1 (CC1) 108

10. Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 2 (CC2) 112

11. Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to the Conceptual Component 3 (CC3) 119

12. Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 4 (CC4) 126

13. Experienced PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 1 (CC1) 136

14. Experienced PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 2 (CC2) 142

15. Experienced PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to the Conceptual Component 3 (CC3) 148

16. Experienced PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to the Conceptual Component 4 (CC4) 157

17. Theme Comparison Between Novice and Experienced PTs: Conceptual Component 1 (CC1), PTs' Beliefs About Facilitating Factors for SPO 162

18. Theme Comparison Between Novice and Experienced PTs: Conceptual Component 2 (CC2), PTs' Beliefs About Interfering Factors for SPO 165

19. Theme Comparison Between Novice and Experienced PTs: Conceptual Component 3 (CC3), Conceptualization of SPO 167

20. Theme Comparison Between Novice and Experienced PTs: Conceptual Component 4 (CC4), Main Factors Influencing PTs' Beliefs About SPO 169

21. Themes Through Post Hoc Analysis.. 207

LIST OF FIGURES

Figure Page

1. PTs' Beliefs About Successful Patient Outcomes: Initial Conceptual Framework 8
2. PTs' Beliefs About Successful Patient Outcomes: Revised Conceptual Framework Based on Literature Review 54
3. Data Collection Tools and Data Analysis Process 79
4. Schematic Representation of Coding and Theme Emergence 82
5. Novice PTs' Beliefs About Successful Patient Outcomes & Main Factors Influencing PTs' Beliefs: Revised Conceptual Framework 129
6. Experienced PTs' Beliefs About Successful Patient Outcomes & Main Factors Influencing PTs' Beliefs: Revised Conceptual Framework 159
7. Potential Relationship Among Three Selective Codes and Influences on Plasticity of Beliefs About Successful Patient Outcomes 206
8. Spiral Model: PTs' Beliefs About Successful Patient Outcomes 216

CHAPTER 1

INTRODUCTION

Health Care Outcomes

Health care professionals today strive to enhance health care outcomes. The demands for measuring health care outcomes come from various parties, including third party payers, administrators, consumers, and health care professionals themselves. Each party may value different dimension of the outcome, such as cost efficacy, time efficiency, patient satisfaction, and clinical effectiveness in one's own terms. It is not uncommon for health care professionals to experience collisions of such varying views of health care outcomes in their practices. Anderson (2002a) argues that there is a discrepancy between health care professionals' selection of outcome measures and what their patients value most. He illustrates his point by using an example of the 5-year survival rate, which is one of the most common outcome measures used by oncology surgeons, but which can be totally meaningless to the patient who worries about how he or she is going to take his or her own role at home or at work the day after being diagnosed with cancer. We simply do not know enough about each party's understanding of the health care outcomes.

As one of the tools to enhance outcomes, the profession of physical therapy embraced the concept of evidence-based practice (EBP), which was introduced by Sackett, Straus, Richardson, Rosenberg, and Haynes (2000). Sackett et al. state that the EBP consists of the triad of clinical research evidence, the clinical expertise of the clinician, and the patient's values. However, their evidence appraisal approach emphasizes the hierarchy of research evidence, in which expert consensus is given much lower status than the evidence gained from randomized controlled trials. The evidence appraisal approach definitely heightened the researchers' awareness of the strength of evidence, thus it has improved the methodological quality of outcome studies in the recent years. However, health care professionals are keenly aware of the gap between what we learn from the evidence from the research and how we make decisions in our own practice (Jette et al., 2003; Rubenfeld, 2001). Rubenfeld illustrates the gap by demonstrating a disagreement on the actual patient treatment plan among various pulmonary intensive care practitioners, such as nurses, respiratory therapists, and physicians, even though they all agree on the clinical research evidence. He proposes that the EBP should be more precisely named as, "evidence-, expertise-, and value-based medicine" in order to capture what the actual clinical practice should be based on, rather than simply putting all of the weight on the evidence alone. In addition, Jette et al. (2003) conducted a survey of the practicing physical therapists' (PTs') beliefs, attitudes, knowledge, and behaviors about EBP. Although EBP is generally perceived positively and believed to enhance the quality of PT practice, Jette et al. reported that practicing PTs were not sure how the facility limitations and patient preferences would be incorporated into the scheme of the EBP. Thus, they conclude that expertise and clinical judgment are required for PTs in order to use evidence most effectively (Ciccone, 2002; Jette et al., 2003).

From what has been described so far, I perceive that the concept of health care outcomes is not so simple or absolute, but rather it is multi-faceted and potentially relative to various factors. Thus, most health care outcomes are challenging to measure, especially when one attempts to find meaningful outcomes for the individuals involved.

The Nature of Beliefs

Beliefs are cognitive elements which can be kept private and unless they are acted upon, they seem to be inconsequential. However, social theory, such as social constructivism, and relevant research in various fields seem to indicate the opposite (Tversky & Kahneman, 1982a). Social constructivists characterize knowledge creation uniquely as a shared rather than an individual phenomena (Prawat & Floden, 1994). In the context of mathematics education, Goodman (1986) states that knowledge is developed “by the dialectical interplay of many minds, not just one mind” (p. 87). The contemporary or constructivist view of learning informs us that people create their understanding based on what they already know or believe (National Research Council, 2000). Similarly, PTs’ beliefs are found to affect their knowledge acquisition and the use of knowledge in clinical practice (Rappolt & Tassone, 2002; Thornquist, 1994). Chin-Chung (2002) studied science educators’ beliefs and concluded that their beliefs about teaching, learning, and the nature of science are often congruent. He calls this congruency of various beliefs “nested epistemologies.” He further suggests that they tend to appear among teachers with greater teaching experience. The concept of nested epistemologies also appears to be consistent with the expert model of physical therapy

(Jensen, Gwyer, Hack, & Shepard, 1999), which shows the integrated form of practice philosophy that is consistent with clinicians' personal beliefs and experience.

In addition, in the field of heuristics, human decisions are often considered to be based on their beliefs about the probability of uncertain events in the future, such as the weather during a planned vacation or the investment return on the stock one purchases (Tversky & Kahneman, 1982b). Furthermore, the individual's beliefs are known to be resilient against empirical evidence; however, they are also known to be changeable by "vivid, concrete, first-hand experience" (Ross & Anderson, 1982, p. 152).

In conclusion, studying human beliefs has a significant impact on the understanding of the nature of education (teaching and learning), human decision making, and professional practice, such as physical therapy.

Physical Therapists' Beliefs

From the late 1980s to early 1990s, the lack of consensus in treatment approaches was noted for the most commonly treated orthopedic dysfunction, low back pain. Based on the survey study of family medicine physicians and chiropractors that was conducted by Cherkin, MacCornack, and Berg (1988), PTs' attitudes and preferences of patient management of low back pain was surveyed by Battie, Cherkin, Dunn, Ciol, and Wheeler (1994). The results indicated that the McKenzie approach was most commonly used by PTs, and PTs' beliefs about the causation of the low back pain were much more diverse than those from the physicians' or chiropractors' surveys (Cherkin, MacCornack, & Berg, 1988). The authors concluded that there was a need for more outcome studies and the formation of treatment guidelines. In the same year, the clinical guidelines for the treatment of low back pain were published by the Agency for Healthcare Research and Quality (AHRQ; formerly known as the Agency for Health Care Policy and Research [AHCPR]). Li and Bombardier (2001) surveyed PTs in Canada regarding their beliefs about their practice and the use of the AHRQ guidelines for the treatment of low back pain. They reported that the majority of PTs agree with the usefulness of the guidelines in general, but PTs don't necessarily value the guidelines. They recommended more focused effectiveness studies for commonly used approaches, such as the McKenzie approach.

Stenmar and Nordholm (1994) reported Swedish PTs' beliefs about what makes therapy work. They concluded that Swedish PTs believe that their patients' own resources to recover have more impact on the outcome than the PTs' technical skills. They examined PTs' beliefs using surveys and acknowledged the need for further improvement in the validity of their instruments. Their study has not been followed up by researchers in Sweden or replicated in any other country, such as in the United States.

Other attempts have been made to explain the relationship among PTs' beliefs, intentions, and behaviors by the use of an explanatory theory, such as the Theory of Reasoned Action (Ajzen & Fishbein, 1980) or by investigating the ethos of the profession (Stiller, 2000). However, these studies only imply that knowledge acquisition through professional education and clinical practice may influence their belief formation without formulating theories for further studies.

Although the association between organizational effectiveness and the PTs' role behavior has been explored, a causal relationship has not been established (Lopopolo, 1997; Lopopolo, 1999; Lopopolo, 2001; Lopopolo, 2002). According to Lopopolo's studies, one of the potential barriers for successful patient outcomes can be the incongruency of role behavior expectation between PTs and their organizations.

Studies on Bobath therapists in the United Kingdom (Davidson & Waters, 2000; Lennon, Baxter, & Ashburn, 2001) revealed the plastic as well as resilient nature of beliefs against empirical studies (Ross et al., 1982). Furthermore, these studies provide significant evidence of the influential role of underlying beliefs on clinical reasoning and actual clinical practice (Davidson et al., 2000; Lennon et al., 2001).

As stated above, the literature in physical therapy indicates various researchers' efforts in improving outcomes through studying PTs' beliefs about their clinical approaches and their role behaviors with respect to their organizational structures. The connections between the PTs' beliefs and outcomes are not fully explored, thus further investigation is warranted.

Statement of the Problem

This dissertation attempts to respond to the following questions: How do PTs' conceptualize successful patient outcomes? What are the most important concepts surrounding successful patient outcomes? If we consider patient outcomes as uncertain events for health care practitioners, then understanding their beliefs about outcomes has a significant value in order to uncover their decision making, and thus their clinical behaviors. Various outcome studies using randomized controlled design continue to produce research evidence without our fully understanding the relationship between PTs' beliefs about patient outcomes and other important concepts surrounding the outcome.

To attain the most meaningful outcome for both patients and PTs, it is necessary to direct attention to PTs' beliefs about factors that facilitate or interfere with successful patient outcomes.

Analysis of these beliefs would contribute to the development of a theory of PTs' beliefs about successful patient outcomes. Since the goal of this research would be theory-building rather than theory-testing, a qualitative research method was needed with a grounded theory approach. Although the analysis of these beliefs may not directly reveal therapist's behavior, it would enable us to discover their intent and goals, so that we would be able to propose potentially more meaningful outcome measures in the future.

Initial Conceptual Framework

The purpose of developing the initial conceptual framework (Figure 1) was: 1) to clarify the researcher's thoughts during the development of research questions; 2) to identify the relationship among various concepts; and 3) to develop strategies for the literature review as well as the research method. Each box indicates an individual concept, such as "prior professional experience." The arrow indicates the relationship between the concepts in terms of potential cause and effect, sequence of process, and/or the direction of the influence. For example, "prior professional knowledge" and "prior personal knowledge" may influence "PTs' beliefs," and "factors that interfere with PTs' ability to achieve successful patient outcomes" may also influence "PTs' beliefs." Within each box, several subconcepts are listed with bullets. For instance, within the concept of "prior professional experience," there are three subconcepts, "education," "length of clinical experience," and "specialization." These concepts and subconcepts are developed based on my clinical and personal experience as well as my education.

The most important concept within the initial conceptual framework is "PTs' beliefs about what facilitates successful patient outcomes." Most of the subconcepts—communication, therapeutic presence, patient motivation, and therapeutic touch—are also derived from the researcher's entry-level physical therapy education, as well as experience as a PT in various rehabilitation settings over the past 10 years, except for "ability to analyze the patient's problem," which came from an informal interview of a

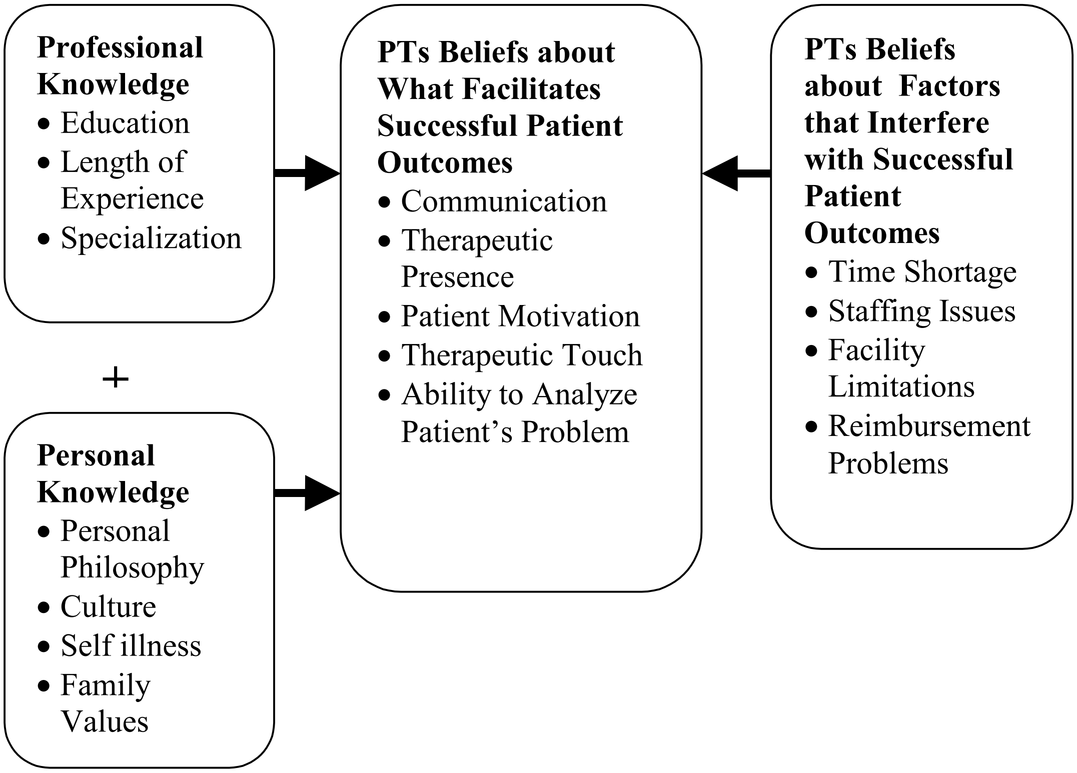

Figure 1. PTs' Beliefs About Successful Patient Outcomes: Initial Conceptual Framework

PT. “Communication” is a very broad concept itself. Specific examples associated with communication are: 1) the ability to listen to the patient attentively, 2) the ability to reassure, affirm, or provide appropriate information to the patient, 3) the ability to time the exchange of information appropriately, 4) the ability to document effectively, and 5) the ability to gain an optimum reimbursement for the patient/client. “Therapeutic presence” means being with the patient/client when needed to provide professional service and respond to his/her various needs during the rehabilitation process. It also implies consistency of care so that unnecessary switching between different PTs can be avoided. “Patient motivation” indicates the patient’s desire to participate in the physical therapy sessions. PTs often cite this as one of the positive signs for a patient’s rehabilitation potential. “Therapeutic touch” means the physical contact that occurs between the PT and the patient throughout the examination and treatment sessions, such as the initial handshake between the patient and the PT, physical assistance during ambulation, passive mobilization, resistive assessment during manual muscle testing, and possibly even hugging and kissing if appropriate.

It is not uncommon for PTs to develop two totally different therapeutic approaches for an identical patient scenario. Education, length of clinical experience, and specialization may influence what PTs believe to be the right course of action for a particular patient. For example, a patient with subacute low back pain can be evaluated and treated by the McKenzie approach or the Feldenkrais approach. The outcome may be positive in both cases, but the PTs’ beliefs may differ significantly due to education, clinical experience, and specialization. The difference in treatment approach might also come from prior personal experience. For instance, the cultural difference in the perception of pain, personal experience as a patient, and how one views the family unit may affect what the PT believes about what factors facilitate successful patient outcomes.

The box labeled “factors that interfere with PTs’ ability to achieve successful patient outcomes” originated from the researcher’s experience in the clinical setting as well as those of her colleagues. These are “time shortage,” “staffing issues,” “facility limitation,” and “reimbursement.” Based on the above described initial conceptual framework, specific research questions were formulated as follows.

Specific Research Questions

With the aid of the initial conceptual framework described above, the problem statement was more finely tuned to develop three primary research questions. They are: 1) what are PTs’ beliefs about factors that facilitate successful patient outcomes; 2) what are PTs’ beliefs about factors that interfere with successful patient outcomes; and 3) what factors influenced the formation of PTs’ beliefs. In addition, for each of the above three questions, are there any differences between novice and experienced PTs? These specific questions, along with the initial conceptual framework, guided the literature review strategies. These specific research questions continued to guide the proposal of the optimal research method and the actual data collection and analysis which culminated in theory building.

Significance of the Study

The results of this study may not be limited to answering these specific research questions, but may also be initiate theorizing regarding PTs’ beliefs about successful patient outcomes. The answers to these specific research questions will be provided in narrative and descriptive format. However, the significance of the theory that is grounded in the data in this study may go beyond the specific participants that were involved in this study. The grounded theory developed from this study will be useful for physical therapy practitioners, clinical administrators, educators, and researchers.

For practitioners and clinical administrators, understanding PTs' beliefs about successful patient outcomes may shed light on why they may disagree with each other with respect to outcome priorities. Examining PTs' beliefs might make it possible to determine what outcomes matter most to the PT and the patient. By re-examining the way we view outcomes, we as PTs may be able to view our interventions with additional insights. For example, instead of solely focusing on specific interventions, such as joint mobilization or specific therapeutic exercises, devoting more attention and time to patient education and various interactive strategies for successful outcomes would be justified.

For educators, the awareness of PTs' beliefs about successful patient outcomes may help contextualize the classroom teaching of the concept of outcomes and interventions. The knowledge of the PTs' beliefs about patient outcomes may facilitate students' use of their didactic knowledge in the clinical context due to the students' awareness of the fact that the clinical instructors' beliefs might be more plastic versus more resilient to new knowledge.

Researchers may be able to focus on testing the theory grounded in this study. Thus interventions examined in the outcome study expand further than simply specific procedures, such as modalities, exercise (Beaupre, Davies, Jones, & Cinats, 2001;

Trudelle-Jackson, Emerson, & Smith, 2002), or mobilization (Green, Refshauge, Crosbie, & Adams, 2001). Furthermore, the comparison between the novice and the experienced PTs may give new insight into the concept of expertise in physical therapy. To actualize all of the above significance of the study, I chose a qualitative research method with a grounded theory approach. It enabled the researcher to discover the unknown or unwarranted variables that are believed to be closely associated with the PTs' beliefs about successful patient outcomes. Further justification for the selection of the research methodology can be found in chapter 3.

Organization of the Dissertation

This dissertation consists of six chapters. Chapter 2 is a review of the current literature on the nature of beliefs, health care outcomes, and the potential relationships between the two. The revised initial conceptual framework based on the literature review will be shown at the end of the chapter.

Chapter 3 begins with a rationale for utilizing a qualitative research method as well as a grounded theory approach among various traditions. Then the concept of methodological rigor in the qualitative research paradigm is described in order to optimize the methodological quality of this study. The method of selection of participants is followed by the descriptions of tools for data collection and data management. The data collection procedures are split into three phases: participant recruitment, interview process, and post-interview process. Modifications that occurred in the actual data collection and analysis processes were provided. Finally, the overview of the data analysis method is followed by three sections of data analysis processes: coding, interviewee summaries, and theme emergence.

Chapter 4 contains the results of this study. It begins with a description of the characteristics of the participants, which is followed by a summary of open and axial coding and the organization of interviewee summaries. Then narrative composites for each group of novice and experienced PTs are presented. Each composite is organized into four conceptual components. At the end of each group's narrative composite section, the revised conceptual framework is drawn for comparison with the conceptual framework based on the literature review (chapter 2). Comparative analysis between the two groups of novice and experienced PTs are presented. Finally, a summary of the results is provided.

Chapter 5 contains the discussion of the results, with particular focus on the PTs' beliefs about factors that influence patient outcomes, how PTs conceptualize successful patient outcomes, and influencing factors for PTs' belief formation. Then, the limitations of the study are discussed. Finally, future research directions based on the results of this study are discussed. Methodological strengthening of the study with specific strategies as well as continuation of hypothesis building through theoretical sampling are described. Secondary analysis potentials are also discussed. Then, the phenomena of plasticity of beliefs found in this study is revisited with the post hoc analysis of the data using selective coding. Themes emerged from the post hoc analysis yielded two specific hypotheses, which marks the beginning of a grounded theory of PTs' beliefs about successful patient outcomes. Specific hypothesis testing strategy is discussed for each of the hypothesis as a part of future research direction.

Chapter 6 is the recommendations from this study for PT clinicians and educators as well as conclusion of this dissertation. The final conclusion summarizes the results, which leads directly to the significance of the study, and future research directions based on this dissertation.

CHAPTER 2

LITERATURE REVIEW

Chapter Overview

In the following section, I briefly describe my literature review strategy. This is followed by the current state of research on beliefs, knowledge, and behavior. Then more specific studies on 1) beliefs in health care, 2) outcomes, and 3) potential connections between the two are described. The summary of the entire literature review and the revised conceptual framework are found at the end of the chapter.

Literature Review Strategy

To accomplish a comprehensive literature review, I accessed multiple commonly used electronic databases in addition to my own resources that I have accumulated over the last several years. The first Ovid search yielded 24 articles with the combination of keywords “beliefs” and “physical therapy.” Another Ovid search with the keywords “culture” and “outcome” yielded 58 articles. I then continued my literature search with Health STAR in addition to Medline with the keywords “health professionals-patient relation” and “treatment outcome” which yielded 16 articles. Another search for “motivation” combined with “physical therapy” resulted in 38 articles. I selected the most relevant articles by scanning the title and the abstract and added my personally acquired articles and books which did not show up in the Ovid literature search. Through reading books and articles, I gained some more relevant articles to review from the bibliographies. For ease of reference data management, I used the Reference Manager 10 software. In January 2002, during the proposal phase, a subsequent electronic search was completed with the aid of a reference librarian at Temple Paley Library to further improve the search on beliefs and knowledge within the social science domain. To revise the initial conceptual framework (Figure 1), I have reviewed at least 169 full text references, including several books.

Beliefs, Knowledge, and Behaviors

Beliefs, knowledge, attitudes, and values are all concepts in the cognitive world. As long as these concepts are kept private, we can never understand their relationships with behavior. Based on the assumption that one's belief system contains numerous beliefs with various degrees of importance, Rokeach (1972a) proposed five types of beliefs based on four criteria on the connectedness of one belief to other beliefs. A particular belief that has a greater connection to other beliefs is considered a more important and more central belief (Rokeach, 1972a). The four criteria for the importance of beliefs are: 1) existential nature, 2) shared with others, 3) derived from direct observation, and 4) matters of taste. The most important types of beliefs meet all four criteria. For example, statements such as "Death is inevitable" and "We cannot live unless we have oxygen" (p. 15) are both Type A: primitive beliefs with full consciousness. A belief meeting criteria 1 and 4 is called Type B: primitive beliefs without consciousness. Examples includes phobia, delusion, and various ego-related beliefs that are not necessarily shared with others. Other examples include "I believe in God" and "I am an intelligent person" (p. 15). Type C: authority beliefs meet criteria 1, 2, and 3. Political and religious beliefs fall into this category, and a direct encounter may not be necessary for this type of belief. Examples include “There is only one true Bible” and “The U.S. Constitution is the best constitution ever framed” (p. 15). Type D: derived beliefs are defined as the beliefs perceived to be stemmed from an authority that one believes is positive. This type meets criteria 3 and 4 but not necessarily 1 and 2. For example, “It is wrong to smoke” may originate from belief in an authority, such as the American Heart and Lung Association. Finally, Type E: inconsequential beliefs based on arbitrary matters of taste meet only criterion 4. It is considered the least important because of the lack of connectedness to other beliefs. Furthermore, verifiability of beliefs can be an attribute to compare among various beliefs. Verification of Type B and E is impossible; however, other beliefs have various verification methods, such as the use of logical deduction or direct observation (Rokeach, 1972a).

Attitudes have drawn significant attention as a cognitive element that encompasses various concepts and unites affective, cognitive, and behavioral domains of human nature. Theories on attitude change have been formulated in various perspectives in psychology, such as behaviorism (Kiesler, Collins, & Miller, 1969e), psychoanalytic approach (Kiesler, Collins, & Miller, 1969c), cognitive approach (Kiesler, Collins, & Miller, 1969a; 1969b; Rokeach, 1972b), and social psychology (Kiesler, Collins, & Miller, 1969d; Sherif, Sherif, & Nebergall, 1965; Terry & Hogg, 2002). Despite significant efforts in testing the mechanism of attitude changes through empirical studies, the majority of theories developed by researchers have limitations in explicating their assumptions. Through various empirical studies on the relationship between attitudes and behaviors, Kiesler et al. summarized that attitudes have some predictive power of behavior, but they lack precision (Kiesler, Collins, & Miller, 1969f). Ajzen and Fishbein (1980) proposed standard models of the attitude-behavior relation, such as the theory of reasoned action (TRA), identify intention as the most proximal cognitive determinant of behavior. Intention is determined by attitudes toward behavior and subjective norms. In TRA, attitudes are considered to be determined by beliefs about the consequence of the behavior and beliefs about the opinions of specific important others. In addition to attitudes and subjective norms, in the theory of planned behavior (TPB), anticipatory feelings toward the outcome of the behavior, such as guilt, are considered the determinants of certain behavior (Ajzen, 1991). More recent attitude studies emphasize the influence of group membership and social identity on attitude change (Terry & Hogg, 2002). Various beliefs have been assumed to be the cause of attitude, social norms, intention, and behavior. Cause and effect relationships among all the cognitive elements and behavior are still not fully understood.

Despite the elusiveness of the concept of belief, its resilience against logical and empirical data has been shown through the two paradigms (Ross & Anderson, 1982). One relates to the capacity of belief to survive while the normative data leads to the prohibition of such a belief. Another considers the survival of belief after the original evidential bases have been discredited. Beliefs may be strengthened or weakened by existing knowledge. Beliefs and knowledge, either separately or together, can influence the behavior of the individual. Kahneman and Tversky state that the preference in behavioral choices may be associated with more cognitively “available” options (Ross &

Anderson, 1982). However, plasticity of the cognitive elements, such as knowledge and beliefs, is evidenced by daily news on cutting-edge scientific discoveries and cases of religious conversions. Thus it is postulated that human behaviors can be changed in close association with the changes in any cognitive element.

In the information theory perspective, beliefs can be converted to knowledge when the information is the causation (Dretske, 1999). For example, if one sees a woman jogging on the street, one can "believe" and "know" a woman was jogging on the street by using one's visual information. The traditional definition of knowledge as a form of justified belief lost ground due to the existence of a justified false belief. For example, if one falsely identified a jogger as a man instead of a woman, one would believe and know a man was jogging on the street. This belief is justified fully but the knowledge, justified belief, is false. In addition, knowledge is commonly verified by reasoning and evidence (Eiser, 1994). The source of reasoning and evidence can be inside of the self or outside. One's own experience and reasoning process are more authentic and dependable than what others provide.

McGuire (1999) uses the term "thought system" to include all the similar cognitive concepts, such as belief, attitude, opinion, cognition, and judgment. He differentiates evaluative versus expectancy thoughts (judgments) when they relate to an important third variable differently from each other. Attitudes imply evaluative thought, such as desirability and positive versus negative. Both beliefs and opinions, on the contrary, imply expectant thought. In this literature review, articles that contain terms such as beliefs, attitudes, opinion, values, and judgment are included because those cognitive terms are often not fully defined in the article.

Health Care Professionals' Beliefs

Sweden's Stenmar and Nordholm (1994) published a survey study of PTs' beliefs about what makes therapy work. A pilot study involving an in-depth interview of six PTs followed by a literature review revealed attributes which could be placed in the following categories: 1) therapists' knowledge and techniques, 2) patients' own resources, such as capacity for healing and motivation to change, and 3) the interaction between PTs and patients. Based on these categories, and with therapists' feedback for clarity, the final questionnaire consisting of 22 questions was created. The results indicate that Swedish PTs perceive the PT-patient interaction and the patient's own resources as more important for treatment success than the therapists' own knowledge and techniques. With respect to gender, female therapists valued a holistic approach more than male therapists. In terms of specialties, orthopedic PTs relied significantly more on their knowledge and techniques than those who work in psychiatric departments. The authors admit that the limitation lies in the validity of the survey instrument. The low reliability of the subscales they implemented can be improved by increasing the number of subscales. The authors recommend further improvement of the survey instrument before replicating this study elsewhere.

Stiller (2000) explored the ethos of the physical therapy profession in the United States. The author defines the ethos of a profession as a composition of the distinguishing characteristics, sentiments, and beliefs of that profession that guide the behavior of practitioners. It is a descriptive qualitative study utilizing data from: 1) interviews with three American Physical Therapy Association (APTA) Fellows, 2) focus group interviews with 11 “Prime Timers” who are at least 50 years of age and not working full time but continue to be active in the profession, and 3) historical documents. These documents include Mary McMillan’s addresses and APTA Presidential addresses. All data were transcribed and coded in order to formulate themes. The results indicate that the main traits of PTs in the United States are caring, helping, hard work, dedication, warmth, openness, and a positive attitude. The ethos is considered to be influenced by external factors such as social and cultural attitudes, as well as historical changes, such as the type of patients they serve. Further, there are internal factors that affect ethos, i.e., an increased number of males in the profession after World War II and increased educational requirements. In terms of the methodology of the study, although the author did not mention it, data triangulation was performed in order to improve the dependability of the study (Janesick, 2000; Merriam, 2002; Patton, 2002a). The author mentioned the use of a contrast-comparative method for coding the data, but the interrater reliability was not documented. Further, trustworthiness of the study could have been improved by providing an audit trail as well as a member check (Merriam, 2002). An audit trail is a tool for a reader to authenticate the study findings by following the document trail of the research process. A member check is a verification method often used by the researcher to seek the subject’s confirmation on the accuracy of the interview transcript.

While the definition of the ethos given by Stiller (2000) assumes that beliefs guide the behavior of the practitioners, one of the theories in social science is worth mentioning. The TRA (Ajzen et al., 1980) provides a potential explanation of how actual social behavior is formed by attitudes toward the behavior, intention, and subjective norm, which are all based on underlying beliefs. Dunkle and Hyde (1995) applied this theory to predict physical therapy and nursing students' actual job selection in a geriatric population. A total of 176 subjects responded to a survey of their attitudes toward the elderly, intention to work with the elderly population, and other factors which might influence their job selection. Actual job selection was examined by follow-up phone calls. The results indicate that the students' intention to work with the elderly was influenced by their attitudes toward the elderly, as well as the students' perception of their familial expectations about working with elderly people. In addition, there was a statistically significant but minimally positive correlation between their intention to work with the elderly and their actual job selection ($r = .26$ for PT, $r = .31$ for RN; $p = .01$). One of the implications to physical therapy educators is that it is beneficial to implement geriatric courses which aim to form positive attitudes toward elderly people. Although the exact return rate was not reported, the internal consistency of the survey was acceptable. The same theory on the relationships between the individual's intention and subsequent behavior was cited as the intention-behavior model by Merrill (1994) in her clinical commentary article on compliance and motivation in rehabilitation. She combined this theory with a health needs model indicating that perceived need can be the determinant of the individual's intent to behave in certain ways. Therefore, helping the patient understand the need for certain behavior is a useful motivation-enhancing step of which PTs should be aware.

Cherkin, MacCornack, and Berg (1988) published the first study comparing the beliefs and attitudes of family physicians and chiropractors about back pain with their clinical responses to vignettes of patients with low back pain. Prior to the survey development, the focus group discussions of family physicians and chiropractors were conducted separately. The survey included three vignettes: 1) acute with sciatica, 2) acute without sciatica, and 3) subacute cases. The survey questions were about the caregivers' characteristics, beliefs, and attitude about managing back pain, and their attitudes about patients with back pain. The results indicated a significant difference between family physicians and chiropractors with regard to not only technical issues, such as which tests to order, but also their beliefs and confidence level in treating back pain. There was a difference in their perceptions of the cause of back pain. As a cause of pain, physicians predominantly considered muscle strain, while all chiropractors considered vertebral subluxation. Chiropractors' utilization of x-ray is correlated with their causation hypothesis. The study uniquely demonstrated the differences in beliefs and attitudes these two health care professionals possess in terms of back care. The causes for these differences are not clearly stated; however, one could postulate that education might be the main factor. Response rates were good for both physicians (79%) and chiropractors (70%), although there was no follow up with nonrespondents. Many chiropractors gave hand-written comments expressing discomfort in choosing answers without all the clinical information available, which indicates that the validity of the survey instrument could have been improved further, e.g., by including a free-writing section for full analysis.

The vignettes used by Cherkin et al. (1988) were slightly modified to be applicable to PTs in various practice settings. Battie, Cherkin, Dunn, Ciol, and Wheeler (1994) surveyed a random sample of 186 PTs in Washington state. The results demonstrated the variability in practice patterns and preferences in PTs working in health maintenance organizations (HMOs), hospitals, and private practices. For example, the number of visits as well as the length of each session was shortest in HMOs, longest in private practices, and in between for hospital practices. The use of ultrasound in HMOs was significantly lower than in other settings. Willingness to use placebo was highest in private practice. Most therapists in all settings reported a lack of confidence in treating patients with low back pain upon entry to the field; however, they demonstrated their development of confidence through their clinical practice experience. It is interesting to note the difference in various health care professionals' beliefs on the cause of low back pain. In Cherkin et al.'s study , the cause of low back pain is perceived mainly as muscle strain by family physicians and subluxation of the vertebrae by chiropractors. On the other hand, PTs in this study reported various causations including disc disease (27%) and muscle strain (26%), followed by spinal arthritis, facet syndrome, psychosomatic, vertebral subluxation, and others. Whether this variability is associated with specific physical therapy evaluation tools and diagnostic practice was not discussed in the article. Due to the modification from Cherkin et al.'s survey instrument, it is difficult to directly compare this study's results with Cherkin et al.'s, particularly the PTs' beliefs regarding patients with back pain. Internal consistency of these statements was not reported; thus, the validity of the survey is limited. Response rate was not clearly stated either.

Li and Bombardier (2001) published a survey study of Canadian physical therapy management of low back pain. In order to be consistent with the previous physician survey conducted in Canada, they utilized a survey questionnaire with three vignettes that are slightly different from Cherkin or Battie. Li and Bombardier’s vignettes used a younger age range (28-35 years) as compared to that in Cherkin et al.’s (37-52 years). Although Li and Bombardier’s vignettes were more descriptive than Cherkin’s, theirs lacked the mention of a neurological test. The survey items were focused on 1) physical exam, 2) treatment and recommendations, and 3) PTs’ beliefs regarding treatment of low back pain. They concluded that the most frequently used exams were back inspections, spinal range of motion, and straight leg raises. McKenzie and other special exams were reported by half of the respondents. The most preferred treatments for acute cases were education, home exercise programs, and therapeutic exercises. Subacute cases elicited work modification followed by home programs and therapeutic exercises. Most PTs are comfortable managing low back pain. Therapists believe in the effectiveness of ice and heat as well as ultrasound and transcutaneous electrical nerve stimulation (TENS), despite the fact that the Agency for Healthcare Research and Quality (AHRQ, formerly known as AHCPR) guidelines do not support the effectiveness of the latter two in the treatment of back pain. Lastly, the majority of respondents do not perceive the AHRQ guidelines to be helpful for their clinical management of patients with low back pain. It can be interpreted that the guidelines are not fully integrated into their clinical practice. It is an interesting phenomenon in terms of the relationships between PTs' knowledge and beliefs. I will expand the discussion about this relationship further with additional studies in the next section. Although the methodological rigor meets the standard, the statements used to examine PTs' beliefs were rather limited, thus the validity of the survey is somewhat questionable. The interventions listed in the survey are an unintended study limitation if the authors' intent was truly to encompass the unexpected range of beliefs rather than the expected range of beliefs.

Mail surveys are most commonly used to study health care related beliefs (Battie et al., 1994; Cherkin et al., 1988; Cousins, 2000; Li & Bombardier, 2001; Stenmar & Nordholm, 1994), while other methods, including interviews and grounded theory, are utilized in a few studies (Corrie & Callanan, 2001; Ostlund, Cedersund, Alexanderson, & Hensing, 2001; Stiller, 2000). Descriptive survey studies are useful in examining beliefs of a large number of subjects, especially if they are carefully constructed with an in-depth literature search, pilot studies, or prestudy interviews. However, they may inadvertently exclude some crucial factors from the survey instrument while the respondents are willing to share (Cherkin et al., 1988).

Studies indicate that health care professionals, such as physicians, chiropractors, and PTs, each possess their own unique beliefs about their patient management (Battie, Cherkin, Dunn, Ciol, & Wheeler, 1994; Cherkin et al., 1988; Li & Bombardier, 2001; Stenmar & Nordholm, 1994; Stiller, 2000). Attempts are made to explain the relationship among PTs' beliefs, intentions, and behaviors by the use of an explanatory theory, such as the theory of reasoned action (Ajzen & Fishbein, 1980), and by investigating the ethos of the profession (Stiller, 2000). Although these studies imply that the knowledge acquisition through professional education and clinical practice may influence their belief formation, the direction of cause and effect are still unclear.

Use of Knowledge in Health Care

Scientific research is one of the tools used to shift certain beliefs to knowledge by providing evidence and rationale. Corrie and Callanan (2001) published a qualitative study to explore practicing clinical psychologists and counselors' beliefs about research and the scientist-practitioner model. The scientist-practitioner model was developed as the profession of clinical psychologist emerged. It implies that the therapist must be able to conduct clinical research in addition to treating patients. Thus clinical psychologists can strengthen their position by providing evidence as they practice in a biomedical environment. Corrie and Callanan (2001) interviewed two psychologists, two clinical psychologists, two counseling psychologists, and two counselors about their background information, professional training experiences, relationship between research and practice, development of practice over time, and science-practitioner model. Transcribed interview data were coded, then themes were developed. They concluded that professional values, mediating influence of colleagues, and negotiation of external contingencies were the main themes. The data analysis process was well described including reaching data saturation; however, coding reliability and triangulation (Janesick, 2000; Merriam, 2002; Patton, 2002a) were not performed. Although all therapists believe that the knowledge acquired through research is valuable, counselors expressed that their profession ignores the need for research, thus creating a fear of losing their professional autonomy. Corrie (2000) also wrote a review of the scientist-practitioner model and its applicability to counseling psychologists in the current environment of evidence-based practice emphasis. She cited James (1994) who theorized that clinicians' decision making involves various levels of knowledge which is based on Kaminski's (as cited in Kanfer & Nay, 1982) hierarchy of systems of knowledge. The highest level of knowledge is empirical knowledge, followed by theoretical knowledge. The third level is procedures established through shared professional beliefs and the common practice of peers, and the lowest level of knowledge is the individual's social and cultural experience. James claims that it is appropriate for clinicians to base decisions solely upon procedures established through shared professional beliefs and the common practice of peers when higher levels of knowledge are absent.

In the physical therapy profession, Higgs and Titchen (1995) categorized the various knowledge used in the clinic into three types: 1) propositional, 2) professional craft, and 3) personal knowledge. The empirical and theoretical knowledge discussed by James (1994) and Kaminski (as cited in Kanfer et al., 1982) earlier correspond to the areas of overlap formed by propositional and professional craft knowledge. Another area of overlap formed by professional craft and personal knowledge is described in this article as ethical and intuitive knowledge. The beliefs are drawn as the center of all three types of knowledge as part of influences. Although beliefs may not override the knowledge used in clinical practice, it implies that there is some significant meaning in studying PTs' beliefs in order to understand the therapists' practice, including how they use their knowledge and make clinical decisions.

Thornquist (1994) explicated that physiotherapists' unique position in health care focused on how they establish a base for their choice of treatment. This is the first content analysis of physiotherapy sessions through direct observation of two physiotherapists in Norway in their clinics interacting with their patients. She contrasted physiotherapy practice with medical practice in terms of the knowledge base. The medical profession relies heavily on conventional medical knowledge, which is characterized as systematic, formal, or scientific. It is often "context free" just like empirical knowledge, drawn from an experimental study conducted in a laboratory. On the contrary, physiotherapists rely more on practical knowledge, which is characterized as nonsystematic, informal, or contextualized knowledge. One of the reasons why physiotherapists rely on this contextualized knowledge is that the information about the patient is acquired solely through the physiotherapist-patient interaction, such as asking, listening, touching, and watching. Physicians or surgeons, on the other hand, often order tests in order to conclude a medical diagnosis. In other words, medical diagnoses are made more or less through technology and objective information rather than the clinical encounter itself. These actual encounters with patients will feed into the physiotherapists' professional knowledge base and enrich their practical knowledge; unfortunately, not much practical knowledge is shared among PTs. Another interesting finding in this study was that, despite the difference in physiotherapists' knowledge acquisition, type of knowledge, and diagnostic approach as compared with the medical profession in general, the subjects of this study appear to align themselves with the medical profession, discount the knowledge they acquire through practice, and attempt to rely more on scientific, context-free knowledge. It is as if there is an unconscious suppression of feelings and intuition in favor of utilizing a scientific knowledge base. For instance, one of the physiotherapists in the study appeared to change his frame of reference from dualism to monism but reverted very quickly to dualism while asking his patient about her symptoms. He demonstrated his capability of viewing the patient's suffering from a mind-body connection in addition to a mechanical view of the body separated from the mind.

Jensen et al. (1999) conducted the first exploration of physical therapy practice in the United States from 1988 to 1996 utilizing a grounded theory approach. The use of knowledge, particularly the knowledge gained through listening to the patient and for problem solving, makes the difference between expert and novice PTs. Authors theorized that the key elements for expertise in physical therapy are: 1) multidimensional knowledge, using Higgs and Titchen's (1995) classification, 2) clinical decision skills, 3) skilled movement, and 4) virtue.

Although there is no evidence that evidence-based practice (EBP) enhances each individual treatment (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000), the impact of EBP on physical therapy education is evidenced. The impact of EBP may explain how PTs view their practice and decision making process. The concept of the strength of evidence (Sackett et al., 2000) may also affect whether PTs value their practical knowledge acquired through clinical encounters less than the randomized controlled trials published in peer-reviewed journals.

Rappolt and Tassone (2002) conducted an ethnographical study on how rehabilitation therapists gather, evaluate, and implement new knowledge. They concluded that physical and occupational therapists rely on informal consultations with peers as their first educational resource. Their information seeking style is random rather than systematic. In addition, therapists address economic, administrative, and interprofessional barriers to the integration of new knowledge into practice.

Three methods of knowledge acquisition among various health care professionals were documented (Corrie, 2000; Corrie & Callanan, 2001; Higgs & Titchen, 1995; Jensen et al., 1999; Rappolt & Tassone, 2002; Sackett et al., 2000; Thornquist, 1994). These are 1) the use of scientific research (Corrie, 2000; Corrie et al., 2001; Higgs et al., 1995; Sackett et al., 2000), 2) colleague consultation (Rappolt et al., 2002), and 3) patient encounters in clinical practice (Jensen et al., 1999; Thornquist, 1994). The cause of this variation can be related to the variation of PTs' beliefs about the authority of various information sources. Barriers (Rappolt & Tassone, 2002) and difficulties (Thornquist, 1994) with integration of knowledge into physical therapy practice were addressed. It is possible to postulate that there will be ways to reduce these barriers through education, training, and influence on their beliefs.

Patients' Beliefs

In addition to the studies on health care professionals' beliefs, there is literature on patients' perspectives on the rehabilitation process (Alori, 2002; Cousins, 2000; Ostlund et al., 2001). Cousins (2000) published a survey study on older women's beliefs and values with respect to exercise. The author concluded that older women tend to avoid exercise due to “nocebo” (false assumption of risk). She postulates some reasons facilitating their beliefs. Older women may be too fragile to perform certain forms of exercise. In addition, they lack experience with fitness activity which places them at psychological risk, such as feeling foolish. Finally, the internalization of the stereotype of the older female imposed by society and persistent public warnings of risk related to exercise are both negatively affecting older women’s beliefs on exercise. One of the implications for physical therapy practice is that PTs must provide accurate health risks for exercises they instruct. The author clearly states this study’s limitations, mainly the survey instrument issues, such as the form being too long thus causing poor participation in the open-ended answer section. The response rate was an undesirable 59.4%. Nonrespondents were not followed up for nonrespondent bias. Thus the validity of the survey is reduced. Although this is not a study of PTs’ beliefs, it demonstrates the potential relationships between the subjects’ beliefs on exercise and their biological and psychological states as well as the societal impact of these beliefs. Furthermore, although the author implies, or rather assumes, the relationship between beliefs and actual behavior, the actual behavior was not examined in this study.

Alori (2002) describes the formula for successful rehabilitation through his experience as a patient who became a quadriplegic due to an accident. He believes that the following three factors are crucial for successful rehabilitation: 1) trust between the PT and patient, 2) communication or feedback from both sides about what is going on, and 3) motivation of both the patient and the PT working together in the therapy process. He provides his own story as an example of both successful and unsuccessful rehabilitation with various PTs. Although his story can be taken as an anecdote with minimal strength of evidence, it is valuable to those PTs who have a strong desire to improve their practice in terms of patient outcomes. It would be fascinating to determine whether all of his therapists had similar or diverse beliefs on what they thought were the ingredients for successful outcomes.

Qualitative research methods can be employed for exploring patients' perspectives on the rehabilitation process. Ostlund, Cedersund, Alexanderson, and Hensing (2001) in Sweden published a study utilizing interviews of patients on what factors promoted or hindered their rehabilitation process. Twenty subjects who experienced musculoskeletal injury and rehabilitation were recruited for a semistructured interview. The contents of the interview were their life prior to injury, their life at present, their family, work and rehabilitation experiences, and their future plans. Transcribed interviews were analyzed to induce main themes. The main theme regarding their rehabilitation experience was that it was most beneficial for them to have someone who was supportive. From the analysis of the data, the author constructed a socio-emotional model of rehabilitation agents. It is a matrix of two factors; support and rehabilitation type, either individualized or standardized. The supportive therapist who provides an individualized program is labeled as a professional mentor, which is an ideal model for a PT. Being supportive but using a standardized program is considered an empathic administrator. A therapist who is not supportive yet provides individual rehabilitation is labeled as a distant technician, and the nonsupportive therapist who provides standardized rehabilitation is classified as a routine bureaucrat. Although this study is unique in both focusing on the patients' perspective and utilizing qualitative methods, the methodology lacks some credibility and trustworthiness. The author did not state any mechanism to trace back the original data, such as an audit trail. In addition, triangulation of any type (Janesick, 2000; Merriam, 2002; Patton, 2002a) was not evidenced either.

Culture not only contributes to the individual's understanding of a particular disease, but it also influences what the individual considered desirable treatment approaches (Kleinman, 1988). For example, Hmong people believe epilepsy is caused by the spirit. Epileptics are believed to have a supernatural power that allows them to detect the existence of the spirit. Thus the Hmong culture dictates that a shaman who has supernatural powers must treat the people, rather than biomedical practitioners. In addition, healthcare professionals are known to possess their own culture. Cromie, Robertson, and Best (2002) published qualitative research about PTs who experienced work-related injuries. The culture of physical therapy was characterized by two specific beliefs: 1) PTs would not experience work-related injuries due to proper knowledge and skills, and 2) they are caring and hardworking. When both the patient and the PT fail to negotiate their mutual ground to work as a team, some PTs may label their patients as "problem" patients in order for them to cope with their own helplessness and inability to be effective in the episode of care (Thomson, 2000).

Although limited in quantity and quality, the literature on patients' perspectives on exercise and the rehabilitation process revealed the potential impact of patients' values and beliefs on the rehabilitation outcomes (Alori, 2002; Cousins, 2000; Ostlund et al., 2001). These values and beliefs can be closely associated with both patients and PTs' own cultural backgrounds (Bohmert, 2002; Cromie et al., 2002; Fadiman, 1997; Kleinman, 1988). It is suggested that the PT's inability to gather or incorporate their patients' values into a treatment approach may be perceived as nonoptimum care (Alori, 2002; Ostlund et al., 2001). These findings are consistent with the theory of physical therapy practice, particularly about the source of knowledge and how the knowledge is used in practice, addressed by both Jensen et al. (1999) and Thornquist (1994).

Outcome Research

Limited Outcome Measures and Interventions

In the nursing literature, Humric defined quality patient outcomes in 1985 as positive "changes in the care recipient, the patient, in terms of health status (physical status), cognitive, psychosocial, or behavioral variables" (as cited in Smith & Waltman, 1994). *The Guide to Physical Therapist Practice* describes outcomes as the "results of patient/client management, which include the impact of physical therapy interventions in the following domains: pathology/pathophysiology (disease, disorder, or condition); impairments, functional limitations, and disabilities; risk reduction/prevention; health, wellness, and fitness; societal resources; and patient/client satisfaction" (American Physical Therapy Association, 2001, p. 43).

Although physical therapy intervention is defined as "purposeful and skillful interaction of the PT with the patient/client" (American Physical Therapy Association, 2001, p. 105), our interaction and the quality of the interaction, such as therapeutic alliance, is not examined as carefully as procedural interventions, such as therapeutic exercise (Beaupre et al., 2001; Trudelle-Jackson et al., 2002) or manual therapy techniques (Green et al., 2001). The majority of physical therapy outcome studies focus on the effectiveness and efficacy of a particular procedural intervention on a particular impairment (Beaupre et al., 2001; Green et al., 2001), functional limitation (Trudelle-Jackson et al., 2002), or disability (Green et al., 2001). All such studies are based on the widely accepted presuppositions that 1) the higher the methodological rigor of the study, (e.g., randomized controlled studies as opposed to case studies) the stronger the evidence (Sackett et al., 2000); and 2) all of the potential covariances are controlled by the rigorous experimental study design. With these assumptions, what is happening naturally during the physical therapy session in a clinic is not examined as it occurs. There are several known factors that influence health care outcomes, yet recently published peer-reviewed outcome studies (Beaupre et al., 2001; Green et al., 2001; Trudelle-Jackson et al., 2002) rarely mention those factors. For example, the value discrepancy between health care professionals and their patients was documented in various studies (Anderson, 2002a; Kramer et al., 1994; Saigal et al., 1999; Stineman, Maislin, Nosek, Fielder, & Granger, 1998). If there is an impact of this type of discrepancy on the outcome, then reductionistic research focusing solely on the procedural intervention in question might miss this opportunity for discovery, due to the assumption that randomization and statistical manipulation will control factors such as value discrepancy. In the field of clinical psychology, therapeutic alliance has shown positive correlations with the clinical improvement among clients with depression across treatment approaches (Zuroff et al., 2000). The importance of forming a good therapeutic alliance in patient education is recognized, and such strategies for teaching physical therapy students are documented (Mostrom & Shepard, 1999).

Despite the fact that physical therapy patient management (American Physical Therapy Association, 2001) includes not only procedural interventions but other factors, such as PT-patient interaction (Mostrom & Shepard, 1999) and possibly value congruency (Anderson, 2002a; Kramer et al., 1994; Saigal et al., 1999; Stineman et al., 1998), current outcome studies (Beaupre et al., 2001; Green et al., 2001; Trudelle-Jackson et al., 2002) often focus on procedural interventions alone. Further investigations of potential factors that influence the outcomes, other than procedural interventions, must be explored in order to understand and to strengthen the uniqueness of physical therapy.

Motivation Factor on Outcomes

There is an abundance of literature available on motivation as an ingredient for rehabilitation (Alori, 2002; Friedrich, Gittler, Halberstadt, Cermak, & Heiller, 1998; Grahn, Stigmar, & Ekdahl, 1999; Merrill, 1994; Talvitie, 1992). Merrill (1994) reviewed the concepts surrounding patient compliance and illustrated the relationships among needs, motivation, intention, and behavior. She states that health care practitioners must influence patients to secure compliance. To be influential, it is necessary to gain a patient’s trust in addition to using persuasion skills. She further describes the four characteristics of a persuasive message as: 1) expertness or appearance of being knowledgeable, 2) nonverbal as well as verbal communication with warmth, genuineness, and empathy, 3) confidence and enthusiasm, and 4) trustworthiness encompassing technical competence, altruism, and freedom from value judgment.

By searching for empirical data on motivation's effect on rehabilitation outcomes, I found a double-blind prospective study published by Friedrich, Gittler, Halberstadt, Cermak, and Heiller (1998). It aims to assess the effect of a combined exercise and motivation program on the compliance and level of disability of patients with chronic and recurrent low back pain. This randomized controlled trial recruited 93 patients with low back pain and assigned them to physical therapy alone or physical therapy plus a motivation program for a total of 10 sessions. The motivation program included five compliance-enhancing interventions: 1) extensive counseling and information that included clear instructions, aims, and expectations, 2) reinforcement techniques such as providing positive rewards, 3) writing a "treatment contract" based on the oral agreement between the PT and the patient, 4) requesting the patient post the contract at home or work, and 5) giving responsibility to the patient to report his or her compliance with respect to his or her home program. One of the results indicated that the group that received physical therapy plus a motivation program was significantly more likely to participate in their exercise appointments. The disability score and pain intensity were significantly lower in physical therapy plus a motivation group at four-month and twelve-month follow ups. At the four-month follow up, the finger-to-toe test and abdominal strength were significantly better in the physical therapy plus motivation group than in the control group. Motivation scores, self-reported compliance, and the modified Waddell score did not show statistically significant differences between the groups. They concluded that there was a short-term benefit of a motivation program on patient outcomes, but no long-term (12 month) exercise compliance benefit. The authors stated the study limitations clearly. They included the lack of validation of both motivation and compliance measures. The control group was not instructed to keep an exercise log, so the report of compliance may not have been as accurate as in the experimental group. The authors suspect that the external validity limitation may be due to the use of identical PTs for both groups as therapy providers. The referring physicians might have positively influenced the participants. In addition, they cite that comprehensive psychological testing was not performed at the beginning of the study. Since the study was performed in Vienna, Austria, the applicability of this study to the United States might be limited.

In contrast to the positivistic research method used by Friedrich et al. (1998), descriptive qualitative research was used by Grahn, Stigmar, and Ekdahl (1999). They conducted a prospective study that spanned two years in order to gain a deeper understanding of the process of motivation for change in patients with prolonged musculoskeletal disorders and to determine factors influencing change resulting in increased independence. Written and face-to-face interviews were repeated for 20 patients three times each for 2 years. Transcriptions were coded and then themes were developed. The authors concluded that the process of motivation for change is strongly related to subjects’ perceived human support. Therefore they recommended health care professionals perform a simple motivation analysis during the evaluation in order to better serve their patients with prolonged musculoskeletal disorders. In addition, questions about patients’ emotional network and social support at work must be included in the assessment of motivation for change. This study attained credibility, trustworthiness, and dependability by implementing triangulation, an audit trail, and a member check (Janesick, 2000; Merriam, 2002; Patton, 2002a). However, code development description did not include interrater reliability, such as the percent agreement or kappa statistics (Cohen, 1960). Due to the location of the study in Sweden, generalizability of this study's results to the rehabilitation environment in the United States may be difficult. I have not located a quantitative or qualitative study on motivation's effect on rehabilitation outcome conducted in the US.

Conceptual studies (Merrill, 1994; Talvitie, 1992) as well as empirical studies (Friedrich et al., 1998; Grahn et al., 1999) address the positive effect of promoting patient motivation on outcomes. Specific strategies are discussed so that the patient's compliance and motivation are optimized. However, it is not clear whether PTs believe that promoting patient motivation is one of the key elements for successful patient outcomes. Utilizing an emic approach may reveal whether a belief comes from the self and one's experience, or knowledge introduced by an authority, such as education and scientific research.

Health Professional-Patient Relationship

Physical contact that occurs between the patient and the PT is one of the fundamental elements of physical therapy practice. Depending on the specific intent of the touch, it can be perceived and classified differently. Touch can be an expression of humanistic care, such as empathy or caring. Roger, Darfour, Dham, Hickman, Shaugbach, and Shepard (2002) published the first observational study, a naturalistic case study design with a cross-case analysis, on how PTs use touch in inpatient acute and rehabilitation settings. A total of eight mutually exclusive types of touch were identified. They were 1) therapeutic intervention, 2) assistive touch, 3) perceiving information, 4) providing information, 5) caring touch, 6) building rapport, 7) security, and 8) preparation. Various combinations of these types of touch were also observed. The majority of the participants believed that their clinical experience was the most influential factor for acquiring the touch style and adapting it to the needs of the patient while Helm, Kinfu, Kline, and Zappile (1997) reported the culture, education, and clinical experience were all important in the acquisition of touch style. In addition, in terms of frequency of touch, caring touch dominated in Helm et al.'s study (1997), whereas assistive touch dominated in the study of Roger et al. (2002).

Motivation is perceived to be one of the essential ingredients for successful rehabilitation from the patient's perspective (Alori, 2002) as well as being effective in short-term improvement in rehabilitation (Friedrich et al., 1998). Most documents cited here on motivation (Alori, 2002; Friedrich et al., 1998; Grahn et al., 1999; Merrill, 1994) imply the need for both the PT's and the patient's involvement in the process. The conceptualization of the relationships between health care professionals and their patients has been modified with the development of various models (Darby & Walsh, 2000; Emanuel & Emanuel, 1992; Jensen, Lorish, & Shepard, 2002). Emanuel and Emanuel (1992) examined four models of the physician-patient relationships with different understandings of the goals of physician-patient interaction, the physician's obligations, the role of patient values, and the conception of patient autonomy. The first model is called the paternalistic model. According to this model, the physician functions as if he or she is a parent of the patient. The physician makes clinical decisions for the patient, and the patient does not participate in decision making at all. This model is not acceptable except for emergency cases since patient autonomy is focused and valued. The second model is called the information model. It implies the physician's role is as an information provider, and the patient makes the decision according to the information available. This model does not satisfy the physician's needs because their role is limited to that of a technician. The third model is called the interpretive model. This implies the physician's ability to interpret the patient's values and needs in order to match the best course of action available. The decision still lies in the hands of the physician and in extreme cases, he or she may become paternalistic. The final model that appears most promising is called the deliberative model. In this model, the physician attempts moral persuasion without coercion so the patient's values are directed toward the best course, and the patient is empowered by the deliberation process.

In order for physicians to be effective in either the interpretive model or the deliberative model, they must be able to demonstrate the ability to make patients express their feelings and needs. Levinson, Gorawara-Bhat, and Lamb (2000) published a study of how patients provide clues and how physicians respond to them in primary care and surgical settings. The authors defined a clue as "a direct or indirect comment that provides information about any aspect of a patient's life circumstances or feelings" (p. 1021). Levinson et al. (2000) conducted a descriptive qualitative study as a part of a larger study, the aim of which was malpractice issues. They examined a total of 116 randomly selected routine office visits to 54 primary care physicians and 62 surgeons in community-based practices in Oregon and Colorado. Each session was audiotaped, transcribed, and analyzed with the following measures: 1) frequency of the presentation of clues by patient per visit, 2) nature and content of the clues, either emotional or social, and 3) the nature of physician responses to clues, either positive or missed. One or more clues are recorded among 52% and 53% of the visits in primary care and surgeon's offices respectively. Patients initiated to offer clues 70% of the time, and physicians contributed 30% of the time. The nature of the clues are classified as emotional for 76% of visits in primary care and 60% in a surgeon's office. In terms of responses to clues, physicians positively responded 21% of the time in primary care and 38% in a surgeon's office, although they often missed opportunities to acknowledge patient's feelings. Visits with missed opportunities tended to be longer than visits with positive responses. These results indicate that the physician's ability to recognize the patient's clues and to respond positively will improve the quality of care, decrease the time required, and is potentially cost effective. This study offers a unique contribution to how quality of care can be improved through a subtle health care professional's ability, such as picking up the clue and responding positively. However, the authors describe several methodological limitations. First all physicians were male, due to the sampling frame based on a malpractice study. In addition, the data collection were limited to audiotaping; therefore, nonverbal responses, such as posture, facial expressions, nodding, touching, and handing a tissue, were not analyzed. Although the authors mentioned interrater consistency, they did not report the interrater reliability, such as percentage agreement among raters or kappa statistics (Cohen, 1960).

Darby and Walsh (2000) published a theoretical paper to provide an update on the Human Needs Conceptual Model of dental hygiene and its' application to their practice. This model was based on Maslow's human need theory that places self-actualization as the highest motive which can be attained only when other needs are fulfilled (Maslow, 1970). Darby and Walsh viewed the functions of dental hygiene practitioners at three levels: 1) to identify their patients' need deficits and the causes, 2) to support them with signs and symptoms as evidence, and 3) to provide interventions which included referring patients to dentists. Applying Emanuel and Emanuel's (1992) practitioner-patient models, they seem to take the position of interpretive model.

In clinical psychology, the therapeutic relationship has been known to affect the outcome of the treatment (Plakum, 2001; Zuroff et al., 2000). Zuroff et al. published a controlled randomized trial of seriously depressed individuals with brief outpatient treatment in order to determine the relationships between a therapeutic alliance and perfectionism to outcomes. Twelve treatment sessions were completed by 162 patients and 149 were analyzed due to dropout at various stages. One group received two forms of psychotherapy, and the other group received a medication and clinical management. Measurements include dysfunctional attitude scale, clinical improvement, perceived quality of therapeutic relationship, and therapeutic alliance. The results indicate pure perfectionism negatively correlates with patient contribution to therapeutic alliance as well as with clinical improvement. Therapeutic alliance positively correlates with clinical improvement across various treatments for depression. Reliability and validity of each measure was not clearly stated except for citing previous studies for sample inclusion, exclusion, and assessment procedures.

In the field of physical therapy, the patient-practitioner collaborative model was developed by Jensen, Lorish, and Shepard (2002). Barr and Threlkeld (2000) published a therapeutic intervention case study applying this model. The patient is a 50-year-old with subacute low back pain. Following the four stages of the patient-practitioner collaborative model, the therapist and the patient establish the therapeutic relationship as the first stage. During this stage, the therapist finds the patient's concern, such as a strong desire for independence. Then, the therapist diagnoses the patient's condition through manual inquiry. This stage reveals not only the patient's physical status but also the patient's belief about his condition. Next, the therapist and the patient attempt to find a common ground through negotiation. Using the patient's interest in biomechanical information regarding his gait, mutual goals are set. The long term goal reflects the patient's concerns and desire to be independent. Finally, the intervention is applied, and the follow up for further refinement toward better outcomes is planned.

Different models have been utilized to explain the health professional-patient relationship (Darby & Walsh, 2000; Emanuel & Emanuel, 1992; Jensen et al., 2002). However, the patient-practitioner collaborative model provides more specific guidance in terms of the process of collaboration (Barr & Threlkeld, 2000; Jensen et al., 2002). Empirical evidence exists on the positive effect of therapeutic relationships on the outcomes in clinical psychology (Plakum, 2001; Zuroff et al., 2000). Although the importance of the therapeutic alliance in physical therapy practice is also documented (Mostrom & Shepard, 1999), no empirical studies were found.

Humanistic Interventions and Outcomes

In the previous sections, I reviewed the facilitatory factors for successful patient outcomes, such as motivation and clinician-patient collaboration, in an attempt to contrast to the procedural interventions, such as therapeutic exercise or joint mobilization. As we have seen, the facilitatory factors may not necessarily be easy to measure. I will review another difficult-to-measure concept, empathy. Zinn (1993) describes empathy as “a process for understanding an individual’s subjective experiences by vicariously sharing that experience while maintaining an observant stance” (p. 306). In his 1993 special article titled, “The Empathetic Physician,” Zinn examined the process of empathy in the medical profession and offered a conceptualization of empathetic responses. He claims that an empathetic physician offers a better understanding of the patient’s inner experience and provides therapeutic support by meeting the transference needs of the patient. In addition, empathy can be expressed through nonverbal cues, such as posture, grunting, tone of voice, and facial expressions. Language is the most sophisticated tool in the process of empathy. The language of empathy facilitates the medical interview by fostering the therapeutic alliance. In addition, by naming the patient’s emotion, it will provide the patient a chance to respond, possibly opening further to the physician about his or her inner experience. Justification can be given to the patient by acknowledging that it is all right to feel this way or that way. Finally, by demonstrating the limitation of what medicine can do and what the physician can do to his or her experience, the patient can recognize the need to be an active participant in the process of healing. The author admits that there is no gold standard to measure one's ability to demonstrate empathy.

As a matter of fact, empathy is not a new concept in health care. Merkel Margolis, and Smith (1990) conduced a survey study in order to assess current practice and attitudes toward teaching the humanistic and psychosocial aspects of care in internal medicine. Surveys were mailed to 434 accredited internal medicine residency programs in the United States in 1985. The questionnaire consisted of three components: regarding four basic principles of humanistic behaviors, other aspects of the training in the humanistic/psychological aspects of care, and the 19 most commonly taught topics of humanistic/psychosocial aspects, including the importance of empathy. The response rate was 71%, and there was a significant correlation between the residents' knowledge level of humanistic/psychosocial aspects as compared with their knowledge in other areas of internal medicine and their interests in these areas as compared with nonhumanistic interests of internal medicine ($r = .41$; $p<0.001$). In addition, a significant correlation between the residents' knowledge level of humanity/psychosocial aspects as compared with those of residents in other programs and interests in these areas was comparable to those of residents in other programs ($r = .65$, $p<0.001$). Obstacles to initiating or expanding humanistic/psychosocial aspects of care were: 51% agreed with insufficient time in curriculum, 44% lack of trained faculty, followed by pressure to reduce cost in training and patient care.

In "Physical Therapy," Davis (1990) stated that empathy occurs naturally and cannot be forced to occur. She claimed that it is beneficial for educators to promote students' attitudes and behaviors, such as self-awareness, nonjudgmental positive regard for others, and listening skills, instead of teaching empathy.

Another article in 1990 reported that the American Board of Internal Medicine has emphasized the development of humanistic skills in trainees (Beckman, Frankel, Kihm, Kulesza, & Geheb). In Beckman et al.'s article, the following specific skills are listed as observable humanistic skills to show integrity and respect: 1) informing the patient that his/her medical record was reviewed prior to the visit; 2) introducing the provider as someone new to the practice; 3) recognizing the patient as having been previously followed by another physician; 4) acknowledging agenda from a previous visit; 5) describing the objectives of the visit when meeting the patient; 6) identifying current problems; 7) collecting relevant history; 8) explaining the need for an extended visit; and 9) explaining to the patient time constraints for an extended visit. The patient encounter was videotaped and analyzed for whether or not a specific skill was evidenced. Then the results were compared before and after a one-hour didactic instruction on these humanistic skills. The change in the number of skills observed was significantly higher statistically in post-instruction measurement. The authors pointed out the external validity as the main limitation of the study. No follow up studies were found during this literature search process.

Halstead (2001) published a review article examining rehabilitation healing, particularly the humanistic side of health care, such as caring and compassion, as compared to scientific health care. The author reviewed seven articles providing research-based intervention with the potential for enhancing outcomes in traditional rehabilitation populations. The types of intervention ranged from patient-centered team care to health promotion to modify risk factors in patients with stroke; and from acupuncture, massage, support groups, and transcendental meditation to distant healing. The results of these seven articles show a moderately good outcome. The author's intent was to demonstrate the importance and the effects of humanistic elements of health care, such as caring, empathy, and compassion, on rehabilitation healing. However, the author did not clearly state how these seven reviewed articles are related to which of these humanistic elements. The intervention that is not fully integrated into the main stream rehabilitation does not necessarily mean that they consist of humanistic elements of healing. Thus the conclusion drawn from this review article is weakened.

The impact of empathy in medicine (Gianakos, 1996; Merkel, Margolis, & Smith, 1990; Zinn, 1993) as well as in physical therapy (Davis, 1990) has been studied. In addition, an attempt to explicate the global humanistic care skills in medicine was evidenced in Beckman's (1990) study. However, humanistic interventions in rehabilitation (Halstead, 2001) are not clearly defined. It would be beneficial to clarify what types of humanistic interventions are in physical therapy practice and to determine whether those interventions are believed to be factors that facilitate successful patient outcomes. This may impact how we view our practice and corresponding entry-level education.

Connection Between Therapists' Beliefs and Outcomes

Is there any connection between PTs' beliefs and the outcomes? Smith and Waltman (1994) published a survey study of the United States Oncology Clinical Nurse

Specialists' (OCNS) perceptions of their influence on patient outcomes. It showed that the greatest influences were perceived in the areas of patient and family responses to care and in interdisciplinary processes. The barriers for the OCNS to influence outcome were lack of time and multiple job responsibilities. The survey used for this study consisted of 12 demographic questions and 63 items with a four-point Likert scale for measuring frequency evenly among 5 main areas: 1) patient and family responses to care, 2) cost of care, 3) organizational processes, 4) interdisciplinary/consultative processes, and 5) research processes. The authors state the limitations of this study as a small sample size, diverse interpretations of the questionnaire's subscales, and the future need for outcome studies utilizing objective measures based on this study's results. Although the authors report that the generalizability of this study is limited, we should recognize the uniqueness of this study, which describes OCNS' perceptions of their influence on patient outcomes.

In organizational sociology, it is known that the organization functions effectively when there is a congruency between the individual worker and the organization's values and beliefs (Katz, Kahn, & Kahn, 1990). On the contrary, the organizational outcomes will be negatively affected when an incongruency of role expectation exists between the individual and the work group, such as a department or multidisciplinary clinical team. In the physical therapy profession, Lopopolo (1997; 1999; 2001) reported that therapists' role behavior changes were associated with acute care hospitals restructuring during the late 1980 through the present. The change includes the PTs' roles as a consultant, educator, supervisor, and working as a team member, as opposed to an independent direct care provider. Furthermore, she confirmed that the PTs' role behavior was associated with the organizational effectiveness and efficiency (Lopopolo, 2002). In addition, she reported that the PTs' perception and beliefs about their work experience were primary determinants of their professional commitment and job satisfaction (Lopopolo, 2002). Although the relationship between the organizational and individual patient outcomes is not clear, PTs seem most effective when their organizations share similar beliefs and values.

Davidson and Waters (2000) published a national survey in the United Kingdom on physiotherapists' approaches to patients with stroke in order to obtain a broader view of interventions. The questionnaires were mailed to 262 hospitals and health centers throughout the UK which resulted in 1078 responses (a return rate of 64.67%). Incomplete surveys and respondents who had less than one year of clinical experience were excluded from the analysis. As a result, 973 were analyzed (effective return rate of 58.36%). The contents of the questionnaires were: 1) background information, 2) work-related information, 3) views of colleagues (nurse/MD), 4) communications, 5) conflict, 6) walking, and 7) beliefs and assumptions. Descriptive statistics were used to analyze the data. The results indicate that the Bobath (88%) was the most commonly used approach followed by Carr and Shepard's motor learning approach (4%). Seventy-three percent of respondents want patients to avoid walking if the quality of walking is poor. Approximately half of the respondents avoid using tripod sticks while the other half disagree. Forty-six percent of the respondents believe the skills of a physiotherapist do influence the patient outcome, while 31% disagree. Finally 56% agree and 28% disagree with the following statement: If high quality of movement is achieved, this would translate into greater functional ability. The authors conclude that there is a significant variability in the view of stroke treatment among physiotherapists in the UK. Many assumptions and beliefs physiotherapists hold are not substantiated. The authors theorize that the commonly used Bobath approach may be mutating or be upgraded according to the therapists' willingness to acquire new knowledge from, for instance, neurophysiology, while some therapists remain with the pure Bobath approach. They use the metaphor of shifting sands to explain how accepted knowledge and practice are in the treatment of the dominant approach because of the ever-changingness and irrationality of practice preferences. The research method is well documented and includes various steps that enhance validity and reliability, including, but not limited to, return rate, inclusion criteria, categories of each questionnaire item, and the description of the process of questionnaire construction. However, authors state limitations of the study as the existence of sample bias and nonrespondent bias.

Lennon, Baxter, and Ashburn (2001) reported the survey study on an expert consensus view of the theoretical beliefs underlying current Bobath practice in the UK. The survey included 30 theoretical belief statements, such as "physiotherapy can enhance motor recovery following stroke because of the central nervous system's neuroplasticity" (2001, p. 257). The distinctive theoretical belief of Bobath therapists was that normal tone was a prerequisite for normal movement. As a consequence, they would delay the daily task practice.

Literature connecting the healthcare professionals' beliefs and outcomes are unsatisfactory. Although a causal relationship has not been established, the association between organizational effectiveness and the PT's role behavior has been explored (Lopopolo, 1997; 1999; 2001; 2002). One of the potential barriers for successful patient outcomes can be the incongruency of role behavior expectations between the PT and the organization. Studies on Bobath therapists (Davidson et al., 2000; Lennon et al., 2001) revealed the plasticity as well as the resilient nature of beliefs against empirical studies (Ross & Anderson, 1982). Furthermore, these studies provided significant evidence of the influential role of underlying beliefs on clinical reasoning and actual clinical practice (Davidson & Waters, 2000; Lennon et al., 2001).

Chapter Summary

Figure 2 is a revised conceptual framework regarding the PTs' beliefs about successful patient outcomes. The refinement from the initial conceptual framework (Figure 1) is based on the in-depth literature review. Based on the literature review, three new boxes were added: patient beliefs, intended successful patient outcomes, and actual interventions and patient outcomes.

Studies of health care professionals' beliefs are limited (Battie et al., 1994; Cherkin et al., 1988; Corrie & Callanan, 2001; Davidson & Waters, 2000; Lennon et al., 2001; Li & Bombardier, 2001; Stenmar & Nordholm, 1994; Stiller, 2000). There is only one study conducted on PTs' beliefs about what works in physical therapy (Stenmar & Nordholm, 1994). However, there are methodological problems associated with the survey instrument, thus replicating it in the United States would not be appropriate.

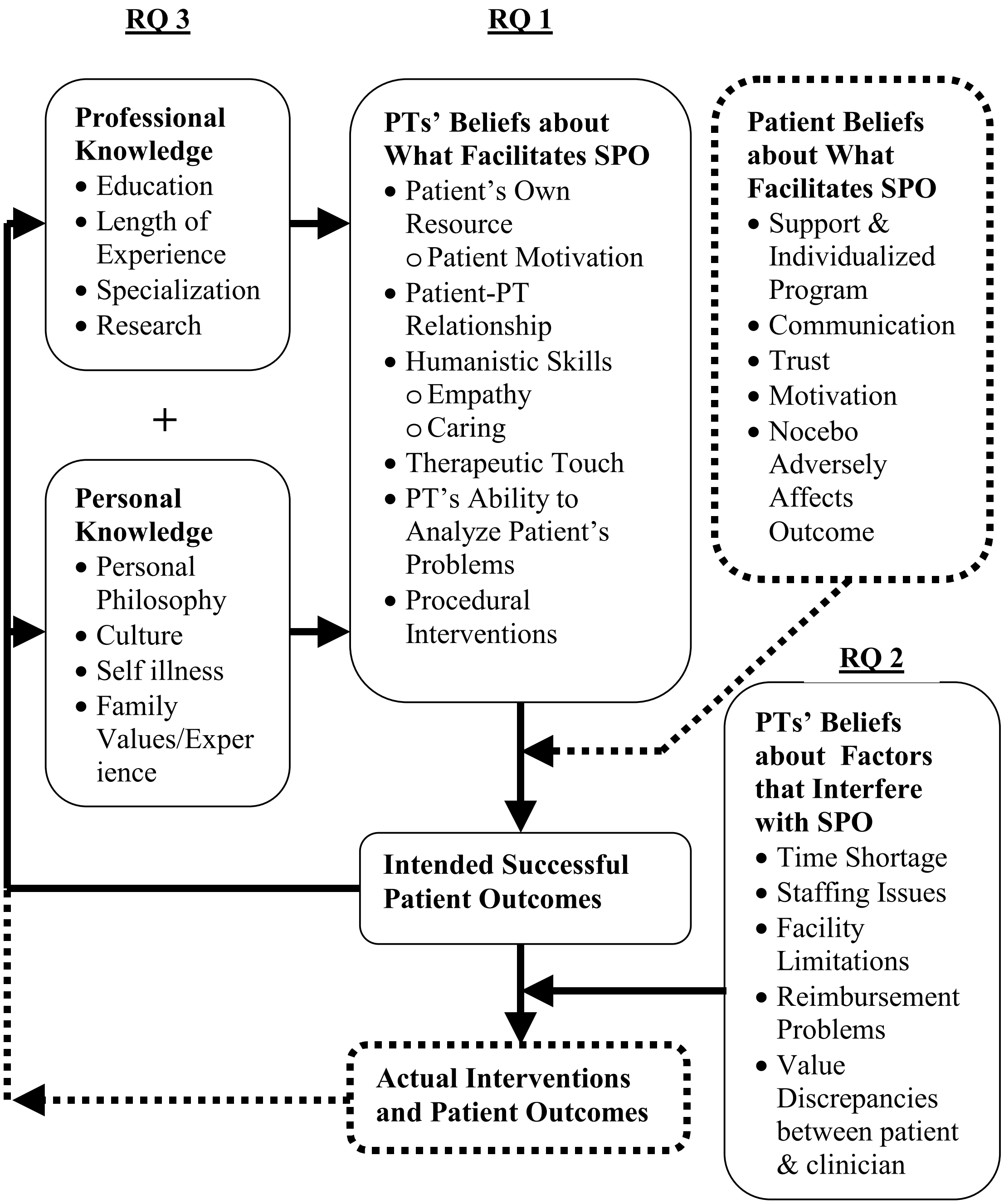
RQ 3
RQ 1
Professional Knowledge
• Education
• Length of Experience
• Specialization
• Research
+
Personal Knowledge
• Personal Philosophy
• Culture
• Self illness
• Family Values/Experience
PTs' Beliefs about What Facilitates SPO
• Patient's Own Resource
o Patient Motivation
• Patient-PT Relationship
• Humanistic Skills
o Empathy
o Caring
• Therapeutic Touch
• PT's Ability to Analyze Patient's Problems
• Procedural Interventions
Patient Beliefs about What Facilitates SPO
• Support & Individualized Program
• Communication
• Trust
• Motivation
• Nocebo Adversely Affects Outcome
RQ 2
PTs' Beliefs about Factors that Interfere with SPO
• Time Shortage
• Staffing Issues
• Facility Limitations
• Reimbursement Problems
• Value Discrepancies between patient & clinician
Intended Successful Patient Outcomes
Actual Interventions and Patient Outcomes

Figure 2. PTs' Beliefs About Successful Patient Outcomes: Revised Conceptual Framework Based on Literature Review

Note: Solid Lines - Data collection intended in this study
Dotted Lines - No data collection intended in this study
RQ: research question, SPO: successful patient outcomes

With respect to treatment of patients with low back pain, family physicians, chiropractors, and PTs in the United States (Battie et al., 1994; Cherkin et al., 1988) and Canada (Li & Bombardier, 2001) show differences in their beliefs about the cause of the pain, intervention preference, and confidence level. Outcome measures can be irrelevant to the patient even if the statistical significance demonstrates a good outcome (Anderson, 2002a). In addition, the interventions under study are limited to specific procedures (Beaupre et al., 2001; Green et al., 2001; Trudelle-Jackson et al., 2002) and rarely cover humanistic factors including therapeutic relationships. There are factors believed to facilitate the rehabilitation process, such as promoting motivation (Alori, 2002; Friedrich et al., 1998; Grahn et al., 1999; Merrill, 1994; Talvitie, 1992), positive therapeutic alliance (Barr & Threlkeld, 2000; Jensen et al., 1999; Mostrom & Shepard, 1999; Zuroff et al., 2000), empathy (Davis, 1990; Gianakos, 1996; Levinson, Gorawara-Bhat, & Lamb, 2000; Merkel et al., 1990; Zinn, 1993), caring (Halstead, 2001), and compassion (Halstead, 2001). In addition, depending on the therapist's intention, touch can be utilized not only as procedural interventions but also as an expression of empathy and caring (Helm, Kinfu, Kline, & Zappile, 1997; Roger et al., 2002).

It is postulated that the "PTs' beliefs about what facilitates successful patient outcomes" leads to the "intended successful patient outcomes" which then leads to the "actual interventions and patient outcomes." The dotted line enclosing the "actual interventions and patient outcomes" indicates that the currently proposed study will not include data collection on this concept. It is included in order to show the "professional knowledge" and "personal knowledge" are enriched by the "actual interventions and patient outcomes" (Thornquist, 1994).

Knowledge, particularly professional knowledge, has been classified in several ways (Higgs & Titchen, 1995; James, 1994; Thornquist, 1994). In a hierarchical classification, empirical knowledge is considered the highest and colleagues' collective opinion is considered the lowest (James, 1994). Higg's classification of knowledge includes propositional, professional craft, and personal knowledge (Higgs & Titchen, 1995). These two classifications do not match one to one directly. Rather they overlap each other. Empirical knowledge can be considered higher level knowledge. Empirical knowledge is also classified as personal knowledge when it is reflected to the self through experience and reflections. Physical therapists possess a unique knowledge base that is enriched by daily encounters with patients (Thornquist, 1994); however, a potential lack of integration was revealed by a content analysis of physical therapy sessions in Norway (Thornquist, 1994) and in Canada (Rappolt & Tassone, 2002). The U.S. expert studies in physical therapy uncover the professional philosophy as being the successful integration of four practice dimensions: knowledge, clinical reasoning, movement, and virtue (Jensen et al., 1999). The influence of professional knowledge and personal knowledge on PTs' beliefs is indicated in Figure 2 by an arrow pointing to those boxes.

Although limited in numbers (Alori, 2002; Cousins, 2000; Ostlund et al., 2001), the box is added for "patients beliefs about what facilitates successful patient outcome." This box is enclosed by a dotted line to indicate that no data collection is anticipated in the currently proposed study. The arrow from this box points to “intended successful patient outcome.”

CHAPTER 3

METHOD

Chapter Overview

This chapter provides the methodological underpinnings of the path from the research questions (chapter 1) and the current literature (chapter 2) to the attainment of the results (chapter 4). In addition, the description of the data collection and analyses procedures will make replication of the study possible.

This chapter begins with the rationale for the use of the qualitative research method, specifically the use of a grounded theory approach. Then, the criteria for methodological rigor are clarified. This is followed by a description of the selection of participants and tools for data collection and data management. Finally, the data collection procedures and the process of data analysis are explained.

Rationale for the Qualitative Research Method

The research questions are focused on understanding PTs' beliefs about successful patient outcomes. Outcome studies are conducted by experimental researchers and are based on positivism—the most popular research paradigm in physical therapy. Positivism is a set of beliefs in which there is a reality that can be reported objectively if the methodological rigor is strictly maintained (Lincoln & Guba, 2000). More specifically, positivistic inquiry is based on the assumption that the researcher is able to predict which variables are possible confounding factors. Thus, researchers are able to collect those confounding variables and control them in analysis with the aid of statistical tools or with specific sampling techniques (Portney & Watkins, 1993a). Similar to the field of medicine, the physical therapy profession embraced the EBP approach (Sackett et al., 2000). Although Sackett emphasizes the triad of research evidence, clinical expertise, and patient values, which form the EBP, the criteria used to classify the strength of evidence places emphasis on research evidence than consensus made by clinical experts. The PTs' acceptance of EBP contributed to the improvement of the methodological quality of outcome studies in physical therapy (Beaupre et al., 2001; Green et al., 2001). The entry-level physical therapy education emphasizing EBP also heightened newer PTs' attitudes and knowledge of EBP (Jette et al., 2003). However, PTs continue to have concerns about the use of EBP in their actual clinical practice (Jette et al., 2003). These concerns may not be explicit because the variables that are contextualized in the daily practice of physical therapy are not easily reducible to the level of testable hypotheses.

The value differences among health care professionals, patients, and their families are known to have an impact on clinical decision making (Kramer et al., 1994; Saigal et al., 1999; Stineman et al., 1998). However, outcome studies in the field of physical therapy that examine or mention this attribute have not been found. In addition, the chosen outcome measures can be completely irrelevant to the patient, but they are selected simply because they are easily measured and/or known to be reliable and valid in order to satisfy the methodological requirement and statistical significance (Anderson, 2002a).

Positivistic inquiries have strength in testing hypotheses that would support or refute a theory, but they may not be adequate in formulating a theory. We cannot be certain about our understanding of the crucial variables through the positivistic approach alone. One can speculate that this may be due to the lack of qualitative research with respect to variables that influence patient outcomes. The currently available literature on PTs' beliefs is extremely limited. Most of them are survey studies that restrict the response within the confinements of the survey instrument design (Battie et al., 1994; Cherkin et al., 1988; Li et al., 2001; Stenmar et al., 1994).

A qualitative research approach with interviews as a main source of data collection allows the investigator to be exploratory and to ground the conceptual orders and emerging themes in the data (Strauss & Corbin, 1998). To answer the research question presented here, it is critical to look for the entire range of beliefs, including the unexpected range. Therefore, a research method was needed that would allow the researcher to be exploratory without presupposing the variables.

Rationale for the Use of the Grounded Theory Approach

There are various traditions and approaches in qualitative research, such as biography, phenomenology, ethnography, grounded theory, and case studies (Creswell, 1998). All of the traditions allow the researcher to describe the phenomena in question, either as a person's life experience or the experience of a specific social or cultural group or organization. However, my research is focused on theory building rather than theory testing. The grounded theory approach possesses two distinctive features that respond to my research questions. Among other approaches listed above, the grounded theory approach is the most explicit in the focus placed on formulating a substantive theory that is grounded in the data (Glaser & Strauss, 1967). Additionally, I favored the idea of a staged process from the germination of a theory to the final version of the theory, rather than a one-step inductive process. For example, multiple levels of coding allow the researcher to view the data in a different light, and the concept of theoretical sampling is also to facilitate the staged data analysis process.

In the late 1960s, Glaser and Strauss played a role in successfully defending the qualitative research method by introducing the grounded theory approach (Charmaz, 2000). At that time, the field of sociology was filled with logically formulated and significantly influential social theories that were not necessarily generated from real data or real phenomena (Glaser & Strauss, 1967). They described the meaning of generating a theory from data as “most hypotheses and concepts not only come from the data, but are systematically worked out in relation to the data during the course of the research” (Glaser & Strauss, 1967, p. 6). As long as the theory meets the criteria, such as fitting to the relevant area, being general enough, and being able to be understood by a researcher as well as a lay person, the methodological procedures were flexible (Glaser & Strauss, 1967).

The grounded theory approach has been used in diverse disciplines with diverse paradigms since Glaser and Strauss first proposed it in the 1960s. Following the contemporary qualitative researchers’ use of a diagrammatic conceptual framework (Miles & Huberman, 1994), tentative hypotheses were illustrated in conceptual frameworks to bind the process of discovery which continued throughout the research process.

Methodological Rigor

Criteria Based on Research Paradigm

Regardless of the research design and method, the researcher must explicitly state the evaluation criteria for the study's methodological quality. In the positivistic research paradigm, the criteria are expressed in terms of validity, reliability, and objectivity. Without validity, the results of the study, however robust, are useless (Portney & Watkins, 1993b). The constructivist paradigm, on the contrary, introduces validity criteria that are different from internal and external validity (Denzin & Lincoln, 2000). Lincoln and Guba (1986) addressed the need for criteria different from those of traditional social science and recommended "credibility as an analog to internal validity, transferability as an analog to external validity, dependability as an analog to reliability, and confirmability as an analog to objectivity" (pp. 76-77).

Trustworthiness

The traditional positivist criteria of internal and external validity are also replaced by trustworthiness and authenticity, which originated in the social constructivist paradigm (Patton, 2002b). The improvement of trustworthiness through member checks is equivalent of addressing the construct validity (Merriam, 2002). Typically, member checks are performed by sending interview transcripts and tentative interpretations to the participants to check the accuracy of the document as well as the plausibility of the interpretation. Tisdell (2002) addresses the importance of member checks particularly when the researcher is the cultural and social outsider in reference to the participant being studied. In this study, I composed an interviewee summary, which contained tentative interpretations of two in-depth interviews, artifacts, and demographic data. Each participant's interviewee summary will serve as material for member checks.

Dependability/Consistency

Lincoln and Guba (1985b, p. 288) introduced the terms "dependability" and "consistency" to conceptualize reliability in qualitative research. Instead of focusing on the others' ability to acquire the same results as the researcher, the emphasis is placed on others concurring that, given the data collected, the results are meaningful (Merriam, 2002, p. 27). In other words, the data and the results are consistent and dependable (Merriam, 2002). The common strategies to optimize dependability and consistency are triangulation, peer examination, investigator's position, and audit trail (Merriam, 2002).

Triangulation

Denzin (1978) identified four basic types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation. Data triangulation is accomplished by the use of multiple data sources, such as transcribed interviews, field notes, and reflective memos. The use of multiple researchers is called investigator triangulation. In theory triangulation, multiple perspectives are utilized to interpret the same data. Methodological triangulation requires multiple methods to study the same research question. In the postmodern perspective, Richardson (2000) introduced the term "crystallization" to improve the conceptualization of the verification process. He recommends replacing “triangulation” with “crystallization” to illustrate that three sides are not enough to verify the findings. In this study, data triangulation was performed by utilizing two in-depth interviews, artifacts, reflective memos, and field notes for each participant.

Peer/Expert Examination

Peer review or peer examination utilizes a colleague, regardless of his/her familiarity with this research. A portion of the raw data is scanned to check the feasibility of the results (Merriam, 2002). In this research, the advisory committee meetings function as the formal peer/expert review process. Throughout the research process, all relevant documents were uploaded regularly onto a website with password protection for the advisory committee to have easy access to conduct the peer/expert review.

Investigator’s Position

Investigators must explain their positions clearly so that the readers understand the connection between the data and the results (Merriam, 2002). More specifically, the position includes the topic being studied, the rationale for participant selection, the context of the study, and values and assumptions. This strategy is also called the “researcher’s position,” and more recently named “reflexivity” by Lincoln and Guba, as “the process of reflecting critically on the self as researcher, the ‘human as instrument’” (2000, p. 183). In this study, potential researcher bias was documented in each interviewee summary to indicate the value of understanding the self in order to understand the research.

Audit Trail

An audit trail is widely used in journalism and qualitative research as a strategy to promote validity and reliability. Guba and Lincoln (1981; Lincoln & Guba, 1985a) recommend an audit trail as a way to authenticate the research process by following the paper trail (i.e., research memos or log). The contents most valuable for an audit trail are when and how the data were collected, when and how categories were derived, and how decisions were made throughout the research process. In addition to a research log and reflective memos, a 14-item audit form was created to ensure a concurrent audit could be performed without difficulty (see Appendix A).

Coding Reliability

When two coders independently code the same data and both agree on the coding, it is considered reliable coding (Krippendorff, 1980b). If the agreement is below the level of agreement by chance, then it is not reliable coding. Although Krippendorff is often cited for a standard level of interrater agreement, he states in *Content Analysis* that there is no set answer for acceptable intercoder agreement (p. 146).

Cohen (1960) defined the kappa statistic, κ, as a coefficient to measure the degree of agreement, excluding chance agreement in nominal scales. It is used extensively in health care research as a gold standard for two-rater interrater reliability on nominal data. Although Landis and Koch (1977) state that the kappa values between 0.61 to 0.80 are considered “substantial,” and the values above 0.81 are “almost perfect,” they admit that these values are “clearly arbitrary.” In addition, according to Grove et al. (1981), the level of the kappa value will be affected by the homogeneity of the data set, the numbers of categories, sensitivity, specificity, and base rate. Thus, it is meaningless to specify an acceptable kappa value prior to the study's data collection.

In this study, the purpose of checking intercoder reliability is to establish the appropriateness of coding; that is, for the coding categories to: 1) represent the range of variability of the data, and 2) be independent and mutually exclusive. Thus, code definitions and decision rules were to be improved further until the kappa value reached the statistical significance level (alpha <0.05). The calculation of the significance was based on Cohen (1960).

In the following sections, the research method and procedures will be described in the order of 1) selection of participants, 2) tools for data collection and data management, 3) data collection procedures, and 4) the process of data analysis.

Selection of Participants

Among various participant recruitment approaches, the purposeful sampling technique was chosen for this study. Patton describes it as selecting settings or subjects because they are "information rich" and illuminative (Patton, 2002f). Volunteer participants were recruited from one of the local university health care systems. In the event of undue difficulty with participant recruitment, another local major health care system was selected as a backup facility. Both of these health care systems have large pools of clinics with various practice settings and PTs with various experience levels. Furthermore, both systems offer diverse demographics in both patient and PT populations.

The initial inclusion criteria for participant selection were: 1) PTs who had 10 years or more of clinical experience, and PTs with 1 year or less of clinical experience, 2) PTs who were considered insightful and articulate, and 3) PTs who were willing to be interviewed extensively for the purpose of this study. The initial plan was to recruit six each of the novice and the experienced PTs. The number of participants was not rigidly fixed during the planning, because the data collection was to continue until data saturation was reached. Six was considered an appropriate estimate based on review of various qualitative research articles and dissertations completed in recent years (Anderson, 2002b; Jensen et al., 1999; Muñoz, 2002; Nixon-Cave, 2001; Roger et al., 2002). However, in the event that data saturation was not attained, an additional two months of data collection were considered. If the data saturation still had not been reached at that time, the data collection would be terminated and the results would be reported based on the data collected.

Tools for Data Collection and Data Management

Heisenberg's uncertainty principle, as discussed in college physics classes, is an excellent reminder for researchers and clinicians regarding the unavoidable uncertainty that each measurement attempt creates. Regardless of how sophisticated the instrument becomes, some degrees of uncertainty exist within the act of measuring. Thus some degrees of human interpretation will always be involved in measurement. In the qualitative research method, the researcher is the research instrument (Lincoln et al., 2000; Patton, 2002g). Thus the credibility of qualitative research relies significantly on the skills, competence, and rigor of the researcher. In order for the researcher to be an optimum research instrument, Patton (2002f, p. 51) states that one must “carefully reflect on, deal with, and report potential sources of bias and errors.” Specific strategies to optimize the methodological quality of the research were described in the earlier section on criteria for evaluating research. The following section includes the main data collection tools: interviews, artifacts, demographic data forms, field notes, reflective memos, consent forms, and data management software.

Interviews

Interviews are the common denominator of data collection tools used in various qualitative research approaches (Holstein & Gubrium, 1995). Among various data sources, interview data have the advantage of stability and availability because the data can be heard or the transcript can be read as often as the investigator needs (Yin, 1994).

The semistructured, in-depth, open-ended individual interviews were used to collect rich data from the participants. Upon reviewing references (Creswell, 1998; Fontana & Frey J.H., 2000; Holstein et al., 1995; Patton, 2002e) and recommendations from the advisory committee, the interview questions were revised from those used in the pilot study. The revision added some flexibility to the interview structure so that the interviewer could respond to the interviewee effectively. As a result, both the clarity of the interview contents and the content validity improved significantly. The relationship among the research question, components of the initial conceptual framework and interview questions are found in Appendix B.

In order to optimize the use of interview time and the quality of interactions, exemplars and a résumé sort were used. An exemplar is a first-person account of a critical incident that includes various thoughts and emotions (Brenner, Brown, & Canter, 1985). An oral exemplar is preferred to a written one due to the spontaneity and informality. In this study, the participants were asked about their most memorable cases with one successful and one unsuccessful patient outcome during the previous 2 months. The résumé sort aided the participants in identifying key events and various professional experiences that influenced their belief formation. It also facilitated the interviewer in selecting questions appropriate to the context of various experiences.

According to the pilot study experience, the use of a digital audio recorder and an extended memory card was considered essential for uninterrupted recording capacity and the efficiency of the transcription process.

Artifacts

Artifacts, including records, documents, and archives, are all considered to provide a rich source of information about the organizations or programs (Patton, 2002c). The advantages of documentation as a source of evidence are that documents can be viewed repeatedly and that information, such as the spelling of names, can be exact. However, in some cases, access can be deliberately blocked by the facility for various reasons, such as a pending law suit (Yin, 1994).

Artifacts not only serve as direct data but also as a stimulus to guide the direction of interviews and observation. Data triangulation can be achieved by utilizing artifacts in addition to interviewing. In this study, the types of artifacts include medical records (physical therapy patient care documentation), departmental meeting agendas or minutes, inservice records, and policies and procedures. In addition, each participant was asked to submit his/her own résumé and any other personal writings, such as poems, to aid in the understanding of the participant. All of these artifacts were scrutinized for a clear relationship to the participants.

Demographic Data Form

The demographic data form (see Appendix C) includes traditional demographic data, such as age, sex, marital status, and ethnicity. In addition, education, current work status, as well as personal experiences, were included. Although demographic data were not the primary data source that answered the research questions, they were necessary in order to describe the characteristics of the participants. To improve the efficiency of the data collection process for both the investigator and the interviewee, I considered asking the participant to fill out the form in advance rather than interviewing for every item in person. Furthermore, the demographic form would serve as proof of ensuring the inclusion of women and minorities in the data collection.

Field Notes and Reflective Memos

Based on the original work by Glaser and Strauss (1967), Richardson (2000) introduced four categories of field notes based on the content type. They are observation, methodological, theoretical, and personal notes. Observation notes contain fairly accurate information on what the researcher gathered through his or her own five senses. Methodological notes contain the researcher's script for what to say and what to do during the data collection. Theoretical notes contain the researcher's responses to the data with respect to theory building. Personal notes contain the researcher's uninhibited feeling statements about the research, data collection, and his or her own evaluation.

In this study, the notes were classified into two types, field notes and reflective memos, based on the location of writing. The field notes were mostly handwritten at the data collection site, while the reflective memos were exclusively word processed at a different location. Although both notes contain all four categories described above, there is some functional emphasis in each set.

According to Patton (2002e), field notes taken during and immediately after the interview should focus on the following purposes. Interview notes will facilitate the interviewer in heightening his or her sensitivity to the interactions with the interviewee and modifications of interview questions as needed. While the researcher is still in the field, and before the interview is transcribed, the notes give insight on the data and possibly offer an affirmation of the direction in which the data collection is heading. In addition, the notes may function as an index during the data analysis as certain quotations are sought.

Reflective memos can be classified as a subset of the field notes, but they focus on the investigator's own reflection on the data, the method, and the research itself as a research instrument. The memos mainly function as an aid for data analysis by guiding the interpretation of the data. Any emerging themes will be written as a part of the investigator's reflective memos during the data analysis process. The memos may also serve as a backup in case of any loss of audio data after interview session.

Consent Form

The informed consent form was provided and the participant's signature was obtained at the initiation of the interview process. Unless the signature of the subject was received, the data collection would not have been initiated. The purpose of the informed consent was to disclose the purpose of the study; the data collection procedures, including interviews; how confidentiality is maintained; and potential risks and benefits to participating in the study (Patton, 2002e). This form is located in Appendix D.

Data Management Software

Among the various types of qualitative data management software available, QRS NUD*IST N6 was chosen based on experience using it during the pilot study. QRS is the manufacturer of N6, and it provides instructional manuals for the user. N6 indicates the latest version of the NUD*IST software series (Richards, 2002). Although it lacks the capability for drawing and analysis of conceptual networks, it is classified as a "code-based theory builder," which is the most sophisticated category (Weitzman, 2000). The system consists of a data source and code source. The data source allows the investigator to store and retrieve original quotes without wasting time, whereas the code source helps the investigator to organize the coding system and makes revisions of coding very easy. Reporting features include some quantitative data, such as the number of text units labeled with certain codes.

Furthermore, N6 provides tools for more efficient assessment of intercoder agreement. It offers the two-coder matrix that is exportable to a Microsoft Excel file for further quantitative analysis. The fault-tolerance setting feature is also useful to provide flexible and systematic ways to make sensible decisions on intercoder agreement (Bourdon, 2000).

Data Collection Procedures

Data collection was initiated immediately upon receiving the approval of the Temple University Internal Review Board (see Appendix E). The data collection was continued until data saturation was reached--when the data did not add any new information in order to understand the phenomena in question (Merriam, 2002). As Merriam suggests, a daily log documenting a detailed account of the methods, procedures, and decision points in carrying out this study was kept throughout the entire research process. The data collection procedures are described in the following section in three stages: 1) participant recruitment, 2) interview process, and 3) postinterview process.

Participant Recruitment

Initial phone contacts were made to three department directors of the primary university health care system to determine the feasibility of recruiting all participants from one site versus multiple sites.

The facility was revisited with a flyer introducing the researcher, explaining the purpose of the study, and soliciting volunteers. Those who indicated interest in participating in the study received a cover letter introducing the researcher, the research, and the informed consent form (Appendix D). The potential participants' telephone contact and their total number of years of clinical experience were recorded. Then, a weekly interview schedule sign-up sheet was placed in the most visible place in the department. The researcher continued to check the status of the sign-up sheet either by calling or visiting to make certain not to miss any potential appointments. When confirming the first interview appointment, the participant was asked for his or her preferred location for the in-depth individual interview.

Interview Process

I brought notes, pens, two digital audio recorders, and one 64 MB memory card to the interview location to ensure uninterrupted recording of the entire interview. Immediately before initiating the interview, I confirmed the informed consent form with the participant's signature and date. At this time, the correct spelling of the participant's full name was also confirmed so that the consent form would have accurate information. Each participant was given an identification number and later given a pseudonym in order to keep confidentiality. All the records, including transcripts, field notes, and memos, were written using the designated pseudonym. The document that contains participants' real names was stored securely in a private file cabinet.

The demographic data form (Appendix C) was given to the participant to return by the second interview. Field notes were taken during the interview; however, full attention was given to the participant's response in order to capture the data not only verbally but also perceptually. Notes were made of the nonverbal expressions of the participant, such as frowning, pausing for reflection, and the overall mood of the participant. Each interview was estimated as lasting 45 minutes to 1 hour, with the awareness of individual variability. The interview questions related to research questions 1 and 2 were used during the first interview session, while the interview questions related to research question 3 were used during the second session (Appendix B).

The second interview session also served as a follow-up session with respect to any unclear or vague statements made during the first session. The interval between the two interviews for each participant was intended to be consistent, approximately 1 week. For artifact collection, each participant was asked to give at least two names of patients; if possible, one with a successful outcome and the other with an unsuccessful outcome.

Immediately after completing an interview, the audio recorded interview data was transcribed by the researcher in order to analyze the data as soon as they are collected so that the data could guide the rest of the data collection process (Glaser et al., 1967). Transcribed documents were saved in Microsoft Word files for ease of editing, then converted to a text file to export it to the qualitative data management software.

Whenever the researcher visited the facility to check the sign-up status, various observations were made and documented either in the field notes or in the reflective memos. The purpose of these observations was to understand the milieu of the participant's practice setting, not to observe any direct patient care activities.

Postinterview Process

Upon completing two interviews, a $25 gift certificate was given to each participant as a part of the research plan. Using the patient names provided by the participants, the researcher requested the record from the medical record department for artifact collection. The medical record department was visited as many times as necessary in a frequency most efficient for artifact collection.

After both interviews were transcribed and artifacts were collected, the researcher composed an interviewee summary for each participant. It includes the interviewee's demographic characteristics, work and personal history, coding characteristics, interpretation of the data with transcribed interview quotes, and potential researcher bias. This interviewee summary, with a cover letter to thank the interviewee for participating, was hand delivered to each participant for member check. The cover letter included a date approximately 2 weeks after the date of delivery for the interviewee to respond in order to promote timely data analysis utilizing the participant's postinterview feedback. If the participant requested correction or omission of part of the data, the request would be accepted. If the participant requested omission of the entire interview, the request would be accepted and additional participants would be recruited from the reserve by following the procedures described above in the Participant Recruitment section.

The frequency of the postinterview contact with the participant would depend on the needs of the participant and the researcher. The participant would be encouraged to ask questions about the research, and the researcher would ask the participant if there were any ambiguous statements that needed further clarification. Every effort would be made throughout this postinterview phase to ensure the ethical and legal standards were met.

Modifications to Data Collection Procedures

The data collection procedures described above were carefully followed; however, there were several modifications to the plan, or at least some decision making that was necessary during the actual data collection process. One of the decisions was related to participant recruitment. The original plan was to recruit PTs with 1 year or less of clinical experience for the novice and those with 10 years or more for the experienced

PTs. However, once I learned that one facility had at least 5 novice PTs and 6 experienced PTs who might be willing and eligible to participate in the study if the experience criteria were modified to 3 years or less for the novice and 7 years or more for the experienced PTs, the benefits and costs were evaluated carefully. The benefits of recruiting all the participants from one facility included convenience and the reduction of facility-dependent variables, such as the community that the facility serves and the type of services that they provide. Since the sub question of all three research questions was to determine whether there would be any differences between novice and experienced PTs, rather than the differences between clinical specialties, the benefits overweighed the potential drawback for modifying the criteria.

With respect to interview scheduling, the intervals between the two interviews for each participant were intended to be consistent, approximately 1 week; however, due to each participant's clinical work responsibilities, the actual interval ranged from 1 week to 14 weeks. According to field notes and reflective memos, no significant discrepancies or disadvantages were observed due to this variability of the intervals between the two interview sessions. The total of 26 in-depth interviews required approximately 4 months to complete.

The initiation of the artifact collection, pertaining to patient care notes, occurred immediately after reaching data saturation through in-depth interviews. In other words, artifact collection occurred after all the open and axial coding categories were established using interview data. It was an unintended consequence of more than anticipated length of time for procurement of the names of patients as well as their medical record numbers to conduct the search. This resulted in the use of artifacts, pertaining to patient care notes, as a source for validation of the findings instead of a data triangulation source. Based on the coding scheme, an artifact field note form (see Appendix F) was created prior to visiting the medical record department for chart review. The use of this form, including the list of all the axial codes, ensured the consistency of the chart review procedure with the focused attention on the purpose of validation. The process of artifact collection continued for 1 month, in which period a total of 25 charts were reviewed. One set of patient care notes was not accessible due to an ongoing internal review process.

Data Analysis

Data Analysis Process Overview

Data collection and analysis, including coding, must occur concurrently in order to facilitate a theory building process. Figure 3 illustrates a schematic representation of how each data source and data analysis process are related to each other. Termination of data collection occurs upon the category's theoretical saturation, which means no additional data are being found to develop properties of the category. Separating data collection from analysis may hinder the generation of a theory.

As a primary coder, the researcher coded the entire data set. The coding process took approximately 6 months, concurrent with the data collection process. Patton (2002d) describes various ways of immersion in the data for the researcher to move from data collection to data analysis. As Patton describes, I immersed myself in the data through different activities, such as transcribing the data, proofreading, writing reflective

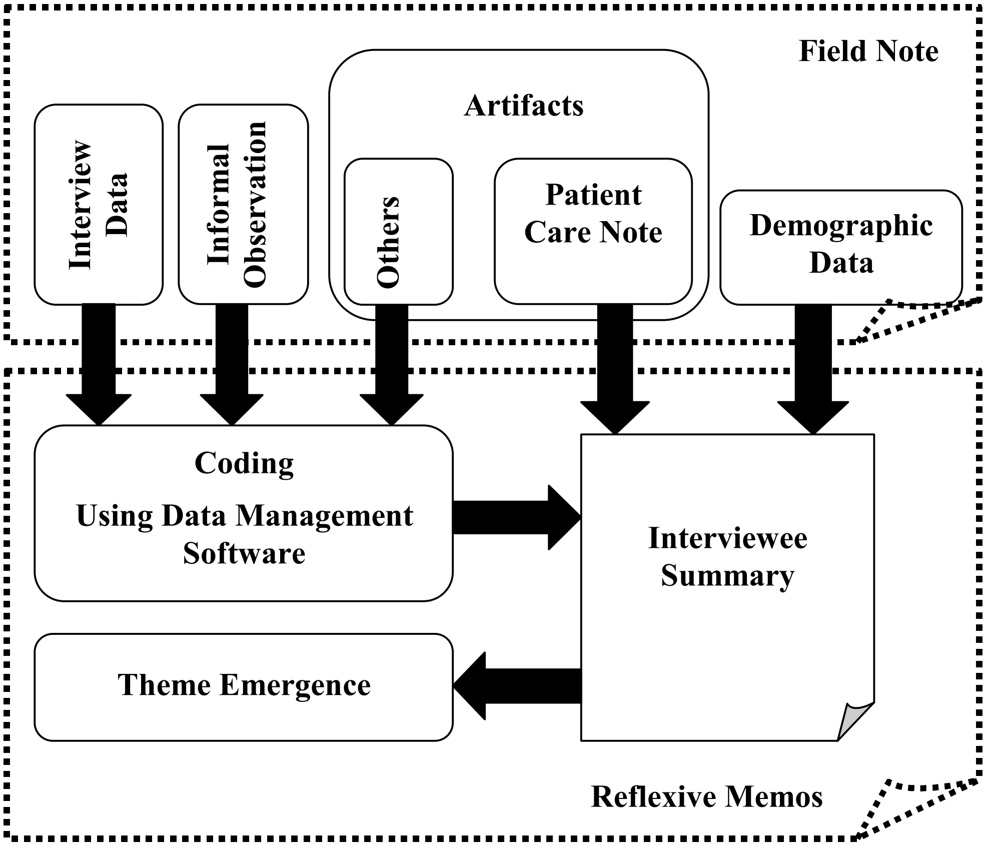

Figure 3. Data Collection Tools and Data Analysis Process

memos, reviewing field notes, and re-reading transcriptions. To be critical of my own analytical process, I particularly valued writing reflective memos. Data saturation was confirmed by not acquiring any new open code categories after the tenth participant. The purpose of this section is to describe pertinent decisions that were made during the actual coding process and how each level of coding process leads to the next.

Unit of Analysis

Due to the design of the data management software, QRS N6, the text unit can not be modified once the text is imported. In other words, the text unit must be determined at the very beginning of importing the interview data. Thus, the sentence as a text unit was chosen before proceeding with open coding.

According to Strauss and Corbin (1998), there are three levels of text analysis. They are 1) line-by-line, 2) sentence or paragraph, and 3) the whole document. Although it can be time consuming, they recommend the smallest unit of analysis for a novice researcher and at the beginning of the research process in order to minimize the risk of missing a crucial information. However, there are several problems with line-by-line analysis. Each sentence is designed to contain a proposition, whereas a line of text does not. Therefore, a sentence as a text unit was preferred to a line, because the major idea brought out in each sentence appeared more meaningful than those in the line-by-line coding.

Moreover, the paragraph was not selected as a unit of analysis because someone must make a decision as to where to break paragraphs when the interview is transcribed, while sentence boundaries can be identified with fewer problems. In this study, to assure that the intent of the interviewee was preserved during the entire coding process, the sentence as a unit of analysis was chosen.

Coding

Strauss and Corbin (1998) describe coding as one of the data analysis tools. To describe the concepts related to the main phenomena under study, coding helps categorize data along the properties and dimensions of concepts and thus facilitates comparative analysis. In addition, coding facilitates the discovery of the relationships among various concepts. Through this systematic analytical process, the information rich data, which can be overwhelmingly large in volume, will be seen as more organized along the core concepts that are discovered through coding. Strauss and Corbin (1998) define open coding as "an analytic process through which the concepts are identified and the properties and dimensions are discovered in the data" (p. 101). In addition, Strauss and Corbin (1998) define axial coding as another analytic process through which the subcategories link multiple open codes at the level of properties and dimensions (p. 123). The selective coding is a higher conceptual coding that facilitates the researcher's understanding of the relationship among various axial codes. Strauss and Corbin (1998) define selective coding as "the process of integrating and refining the theory" (p. 143). Figure 4 depicts a schematic representation of various levels of coding and theme emergence from the data, in which the box represents the phenomena under study.

Open Coding

Open coding was initiated immediately upon completion of the first interview transcription. Open coding categories were revised continuously throughout the data collection phase based on code notes in the reflective memos. According to Strauss and Corbin (1998), the code note is used to facilitate the comparative analysis of the

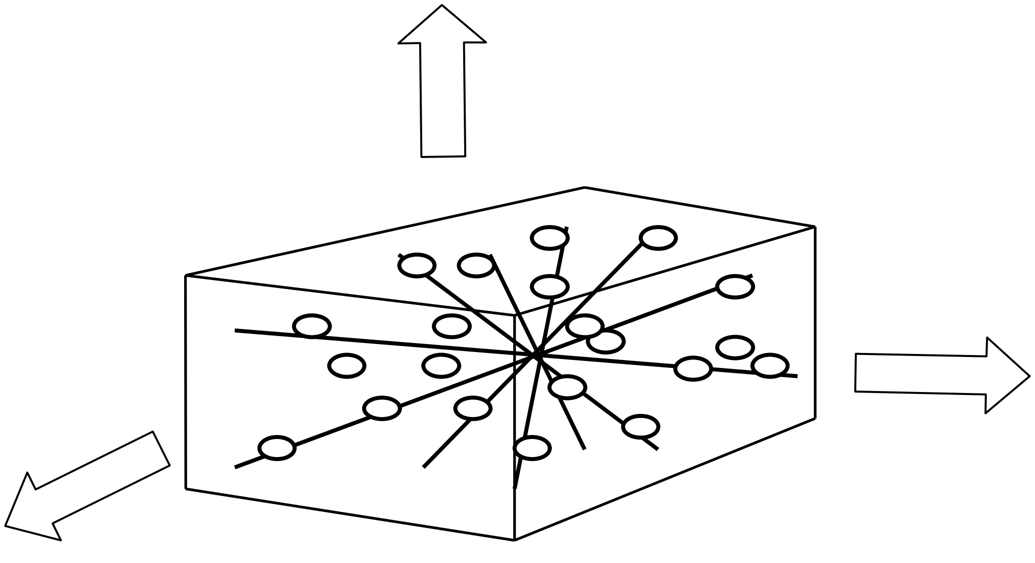

Figure 4. Schematic Representation of Coding and Theme Emergence

○ Open Coding
— Axial Coding (Theme Emergence)
⇨ Selective Coding (Theme Emergence)

dimensions and properties of the data associated with the coding category. The categories were further refined by multiple expert reviews provided by the dissertation advisory committee. The final open coding categories and their definitions are found in Appendix G.

Axial Coding

The actual process of axial coding started as a part of the refinement of the open coding process described above. The 17 axial coding categories and their definitions are found in Appendix G. Following decontextualizing and reducing method analysis during open coding, the axial coding aids in recontexualizing the data. At this level of coding, there were two major concerns about the appropriateness of the coding scheme. The first one was whether the coding categories represent a range of variability and the richness of the entire data source. The second issue regarding the appropriateness of the coding scheme was whether each category was independent and mutually exclusive. In other words, the code definitions demonstrate the clear and distinctive features of each category.

In order to ensure that the codes were adequate in categorizing a range of variability, and that they were independent and mutually exclusive, a secondary coder with experience in qualitative research was arranged. The secondary coder received a coder training packet which included code definitions, sample data coded by the primary coder, and uncoded test data. During the secondary coder training, the decision rules were added in order to improve the distinction between the two codes; however, all of the code definitions remained constant during training of the secondary coder who performed an assessment of the mutual exclusiveness of each code. Approximately ten percent of the data were coded by both coders, and the interrater reliability (percent agreement, kappa, and its statistical significance) was calculated. The result was satisfactory, regardless of the fault-tolerance setting (see Table 1). A sentence as a unit of analysis might have affected the interrater agreement and the coefficient more negatively as compared to a larger unit of analysis, such as a paragraph. For example, one small sentence, such as “Yes,” could be counted as a source of disagreement if one coder codes it and the other coder did not. To attend to this problem, QRS N6 has a feature called

Table 1.

Interrater Percent Agreement, Kappa Statistic, and Significance Based on Two Fault-Tolerance Settings

Fault-Tolerance	Percent Agreement	Kappa Statistic (κ)	z
None	53%	0.38	11.72*
3-Sentence	70%	0.60	17.95*

*$p<0.00003$

"fault-tolerance," which offers systematic flexibility for a more meaningful interrater agreement calculation.

It is beneficial to address the potential reasons for not attaining complete agreement (100%) between two coders. By doing so, strategies for coder training can be identified, therefore improving the intercoder reliability in the case of multiple coders working as a team to complete the data analysis through coding. One of the potential reasons for not attaining a complete agreement is due to the relatively high number of categories. The higher the number of code categories, the harder it is to attain intercoder agreement, even simply by chance. Another reason for not attaining a complete agreement was the difference in the fidelity of the data that was available to each coder. The primary coder interviewed, took field notes, transcribed the recorded data, and read the transcript before coding, whereas the second coder did not participate in any of the activities except reading transcribed interview data. Therefore, the second coder lacked access to the participant's expression of his or her intent through various nonverbal behaviors, such as facial expressions, tone of voice, and body gestures.

If, however, the difference in the fidelity of the data was the primary reason for less than complete agreement, it would be predicted that the disagreement of the coders would have been distributed evenly throughout all categories. However, the pattern of agreement shows that the disagreement occurred only among several codes. The disagreement between the two coders was carefully examined and the four codes with the most frequent disagreement are presented (see Table 2). Both coders distinguished codes

Table 2.

Axial Codes with Most Disagreement Between Two Coders

Disagreement Primary Coder	2nd Coder	# of Unit of Disagreement/ Possible Agreement	% of Disagreement
16. PT's own illness/injury experience	17. PT's personal experience	17/257	6.6%
8. PT's philosophical approach to patient care	12. PT's view of successful patient outcomes	11/257	4.3%
5. PT as a teacher	4. PT's strategies for interacting with patients	10/395	2.5%
13. PT's learning in the clinical context	12. PT's view of successful patient outcomes	9/395	2.3%

16 and 17 clearly, but the primary coder included a few sentences that were descriptive of the family member who was sick as a part of the illness category (16), while the second coder coded those as a nonillness personal experience (17).

The second coder demonstrated some overcoding with code 12, despite the improved decision rules given during training. The codes (4 and 5) were conceptually most closely related; however, the disagreement came from fragmented pieces of sentences, such as, "Showing her on the good side first and that kind of thing." (Aji1:49) None of these 4 codes with most frequent disagreement appeared to require coding scheme modification, because those disagreements did not adversely affect further analyses and formulation of a theory.

Interviewee Summaries

The purpose of writing the interviewee summary for each participant was two-fold: 1) to crystallize the content of the two in-depth interviews that were verified with the corresponding artifacts and demographic data to facilitate theme emergence, and 2) to use it as a document for member check. Researchers who have experience with qualitative research were asked to review the initial draft of the interviewee summary and corresponding two interview transcripts to optimize the trustworthiness and dependability of the analytical process.

Theme Emergence

Through open and axial coding, the larger themes associated with the research question emerged from the data as a whole. The conceptual framework was revised continuously throughout the data analysis to illustrate the schematic representation of the data. Comparative analyses were performed within each group of novice or experienced PTs through writing interviewee summaries. Then, comparative analyses were performed among the themes between the groups of novice and experienced PTs. Furthermore, these themes would be compared with the existing literature. Through these multiple coding and systematic comparative analyses, a theory grounded in the data was formulated.

Chapter Summary

The methodological underpinnings of this research were stated, and the rationale for the use of qualitative research with the grounded theory approach was provided. To ensure the highest methodological rigor, the criteria based on a qualitative research paradigm were introduced. Trustworthiness and dependability were contrasted with the concepts of validity and reliability. Then, the tools for data collection and data management were described along with the planned data collection procedures, which were followed by the descriptions of modifications that were required during the actual data collection phase.

Although data collection and data analysis were conducted concurrently, the data analysis was discussed separately, focusing on the concept of coding and theme emergence. The relation between the data collection tools and the analysis process was depicted in Figure 3. Figure 4 presents a schematic representation of various levels of coding of the data and theme emergence with respect to the phenomena under study. The actual coding process included the descriptions of the appropriateness of coding and the rationale for the sentence as a choice of the unit of analysis. The intercoder agreement was acceptable (see Table 1). The disagreement found between two coders was scrutinized (see Table 2) and found to be insubstantial. Finally, the purpose and the organization of the interviewee summary was presented (see Appendix H).

CHAPTER 4

RESULTS

Chapter Overview

The purpose of this chapter is to answer my research questions through data analysis and to explain a theory formulated from the data using a grounded theory approach. Although the revised conceptual framework based on the literature review (see Figure 2) guided the data collection and analysis processes, the actual data lead to a new way of conceptualizing PTs' beliefs about successful patient outcomes.

This chapter begins with the characteristics of participants, which is followed by the results of coding and interviewee summaries. Then, the composite narratives of novice and experienced PTs are provided based on the comparative analysis of interviewee summaries within each group. Each group's composite narrative is organized into four conceptual components of PTs' beliefs about successful patient outcomes. Each conceptual component consists of three to five themes that emerged from the data. A table summarizes the themes, their corresponding axial codes, and sample quotes at the end of each conceptual component of the narrative composite. Each of the novice and the experienced PTs' narrative composites is summarized and illustrated in each revised conceptual framework. Then, the comparative analyses of themes between the novice and experienced PT groups were described. Finally, the summary of the results is provided.

Participant Characteristics

The purpose of this section is to describe the characteristics of the participants and their practice setting in order to optimize "the user or reader generalizability" (Merriam, 2002).

Facility Characteristics

All 13 participants worked at an urban Trauma Level I teaching hospital with an inpatient capacity of over 500 beds. The facility employs over 2,500 individuals and offers various professional training programs, such as medical residency, nursing, radiology technicians, and administrator training programs. The specialized services include, but are not limited to, cardiothoracic transplantation, trauma, burn care, a ventilator rehabilitation unit, orthopedics, and neurosurgical services (*Hospital blue book*, 2003a; The American Hospital Association, 2003b). According to the most recent *Hospital Statistics* (2003b), there have been national trends in the steady decline of the average length of stay coupled with the steady increase in net revenue. In the state where this facility is located, the overall number of nurses, as well as the number of inpatient surgeries, had declined from 1997 to 2001 (The American Hospital Association, 2003b).

The community which this facility serves consists of residents, predominantly Black or Hispanic origin, of lower socioeconomic status. The facility has a "Spanish speaking only" inpatient floor which is specifically designed to serve the growing patient population whose primary language is Spanish. All staff members on that floor are able to communicate in Spanish.

The Physical Medicine and Rehabilitation department houses physiatry, neuropsychology, speech language pathology, occupational therapy, and physical therapy services. The Chief Physical Therapist and three Clinical Supervisors supervise over 20 Senior and Staff PTs. All staff members, except for the Chief PT, rotate every 6 months through various services within the hospital. In the past, Staff PTs were able to follow their patients who were transferring from the acute care hospital to the acute inpatient rehabilitation unit, but currently the facility has designated two full time PTs just for the rehabilitation service. Also, outpatient sport and orthopedic physical therapy service used to be one of the rotation options for the staff, but it has been separated from the department.

This department has been offering a highly active PT student internship program as well as an extern employment program for PT students in the region. In addition to these formal student education and work opportunities, the staff participate in lectureship and laboratory instructions at the adjacent academic institution.

Participant Demographic Characteristics

Novice PTs

Tables 3 and 4 contain participant demographic data for the novice PTs. The participants are listed in the tables in ascending order according to the total number of years of clinical work experience. The 6 novice PTs with ages ranging from 22 to 35 years had 3 years of clinical experience or less. All 6 novice PTs were hired as new graduates at the current facility and work as Staff PTs, with the exception of one Senior PT who indicated PT as a second career. Four of these novice PTs primarily serve

Table 3.

Novice PTs' Demographic Characteristics: Work & Education

			Work			Education		
Pseudonym	Age	Sex	Total Year as PT	Other Work (year)	Current Position	Entry Level	Other Degree	Certification
Uni	26-30	F	< 1	None	Staff	DPT	None	None
Saba	26-30	M	1	None	Staff	DPT	None	None
Ikura	22-25	F	2	None	Staff	MPT	t-DPT	None
Kaki	22-25	F	2	None	Staff	MPT	t-DPT	Lymphedema
Koi	26-30	F	2	None	Staff	MPT	t-DPT	None
Toro	31-35	M	3	3*	Senior	MPT	None	None

Key: F: female, M: male, MPT: master of physical therapy, DPT: doctor of physical therapy, t-DPT: transitional DPT , * Non-PT related work experience

patients in acute care, while the other two shared pediatric services. One of them also split her day with the lymphedema outpatient program.

With respect to personal experience, 5 out of the 6 novice PTs had some personal injury experience, and 4 had received physical therapy treatment. Three novice PTs indicated that they had experience as a caregiver for a family member who had became ill or disabled.

Table 4.

Novice PTs' Demographic Characteristics: Personal Experience & Others

	Personal Experience				Other Demographic Data		
Pseudonym	Personal Injury	Received PT	Care giving	Child Rearing	Marital Status	Ethnicity	Religious Preference
Uni	Yes	Yes	Yes	No	Not Married	Hispanic	Catholic
Saba	Yes	Yes	Yes	No	Not Married	White	None
Ikura	Yes	Yes	Yes	No	Not Married	White	Protestant
Kaki	Yes	No	No	No	Married	White	None
Koi	No	No	No	No	Married	White	Protestant
Toro	Yes	Yes	No	No	Married	White	Catholic

Experienced PTs

Tables 5 and 6 contain participant demographic data for the experienced PTs. The participants are listed in the tables in ascending order according to the total number of years of clinical work experience. The 7 experienced PTs with ages ranging from 26 to 50 years had 7 years of total clinical experience or more. The experienced PTs represented more diversity in their clinical positions. These positions included 2 Senior PTs, 3 Clinical Supervisors, 1 Chief PT, and 1 Staff PT. Four of the seven experienced PTs had previous work experience at other acute care facilities. Only 1 of the 4 experienced PTs who had indicated a personal injury experience had received physical therapy for an injury in the past. Five experienced PTs indicated that they had experience as a caregiver when a family member became ill or disabled.

Table 5.

Experienced PTs' Demographic Characteristics: Work & Education

			Work			Education		
Pseudonym	Age	Sex	Total Year as PT	Other Work (year)	Current Position	Entry Level	Other Degree	Certification
Ika	31-35	F	7	4	Senior	MPT	t-DPT	Wound Care
Aji	26-30	F	8	6	CS	MPT	None	None
Fugu	31-35	F	9	None	CS	MPT	t-DPT	None
Ebi	36-40	F	10	None	CS	MPT	None	None
Sake	31-35	M	10	None	Senior	MPT	None	None
Anago	41-45	F	18	8	Chief	BS	MS	None
Tako	46-50	F	27	25	Staff*	BS	MS	None

Key: F: female, M: male, MPT: master of physical therapy, BS: bachelor of science, MS: master of science, t-DPT: transitional doctor of physical therapy, CS: Clinical Supervisor, *Per diem

Table 6.

Experienced PTs' Demographic Characteristics: Personal Experience & Others

	Personal Experience				Other Demographic Data		
Pseudonym	Personal Injury	Received PT	Care giving	Child Rearing	Marital Status	Ethnicity	Religious Preference
Ika	No	No	Yes	No	Married	White	None
Aji	Yes	No	No	No	Married	White	Protestant
Fugu	Yes	Yes	Yes	Yes	Married	White	Catholic
Ebi	Yes	No	Yes	Yes	Married	White	Catholic
Sake	Yes	No	Yes	Yes	Married	White	Catholic
Anago	No	No	No	Yes	Married	White	Protestant
Tako	No	No	Yes	No	Not married	White	Catholic

Coding Result

Table 7 summarizes 17 axial code categories, their definitions, and corresponding open codes. Further detailed descriptions of open codes and axial codes are found in Appendix G. Each interview was coded with the range between 11 and 16 different axial codes. Eight out of 13 participants' interviews were coded with all 17 axial codes, whereas 5 participants' data were not coded with all 17 axial codes. Uni did not have axial codes 5 and 14, whereas Koi did not have 16. Neither Fugu and Ebi had axial code 17. Sake did not have axial code 9.

Table 7.

Axial Code Category Definitions and Corresponding Open Codes

Name of Axial Code	Axial Code Definition and Corresponding Open Codes (OC)
1. Patient's psychosocial status	Patient's psychosocial status indicates patient's motivation, apathy, various emotional status, and the perceived reality. OC 1. Patient's desire to get better OC 2. Patient's perception of pain or limitations OC 5. Patient's willingness to follow PT's lead OC 17. Patient's depression OC 21. Patient's fear OC 41. Patient's lack of motivation OC 45. Patient's ability to see what's important to them OC 47. Patient's compliance OC 50. Patient's anger OC 52. Patient's ability to express their needs to various health care professionals
2. Patient's medical status	Patient's medical status includes comorbidities, primary disease/illness, cognition/learning ability, nutrition status, and pre-admission status OC 18. Patient's prior level of function OC 20. Patient's comorbidities OC 35. Severity of disease/pathology OC 37. Patient's decreased cognition OC 49. Patient's ability to learn OC 60. Nutrition
3. Family/social support	Family/social support are caregivers other than non-health care professionals, financial, and social support that enhance or hinder the patient's recovery before, during, and after hospitalization. OC 30. Family support OC 53. Patient's disposition

Table 7. (Continued)

Name of Axial Code	Axial Code Definition and Corresponding Open Codes (OC)
4. PT's strategies for interacting with patients	PT's strategies for interacting with patients are various interactive strategies that promote patient's motivation, rapport, and trusting therapeutic relationship between patient and PT. OC 3. PT's sympathy and empathy to patient's status OC 8. PT's attempt to gain trusting relationship with the patient OC 16. PT's positive outlook OC 22. PT's willingness to accept patient's request, values, and needs OC 24. PT's willingness to resolve patient's problems OC 40. Nonverbal interactions OC 46. Persistence OC 48. Flexibility OC 51. Patient-PT teamwork OC 61. Use of reward
5. PT as a teacher	PT playing a role of a teacher for patients, students, or other HCPs. OC 4. PT's explanation of procedures OC 10. PT informing patient about consequences of their actions OC 19. PT's astute delivery of information to patient/or family OC 29. PT's persuasive communication with other health care professionals OC 56. Specific patient education
6. PT's clinical skills and knowledge	PT's clinical skills and knowledge that are in use during patient care. OC 7. PT's pain management strategies OC 25. PT's active search for better care OC 54. PT's clinical skills and knowledge
7. PT's own psychosocial status	PT's own psycho-emotional response to the perceived reality of clinical practice. OC 26. PT's satisfaction with what she/he does through patient care experience OC 39. PT's frustration over uncontrollable obstacles OC 42. PT's emotional cost

Table 7. (Continued)

Name of Axial Code	Axial Code Definition and Corresponding Open Codes (OC)
8. PT's philosophical approach to patient care	PT's philosophical approach to patient care underpins the PT's clinical practice. It may not be directly observable but it can dictate PT's practice. OC 22. PT's willingness to accept patient's requests, values, and needs OC 24. PT's willingness to resolve patient's problems OC 31. Dedication OC 44. PT being more aware of individual differences
9. HCP's bias/prejudice re to patient care	HCP making decisions based on assumptions they have on a particular group of individuals or a setting. OC 6. Age proximity between PT and the patient OC 23. Gender role OC 32. Patient age OC 36. Nursing home placement
10. Health care teamwork	Health care teamwork is the health care team's willingness to work towards the same goal; coordination of care; mutual respect to each other's specialty skills and recommendations (individual or discipline level) OC 9. Interdisciplinary teamwork OC 27. Sharing successful experiences with a subgroup of the entire health care team OC 55. Other HCP's influence on patient's expectation OC 59. Territorial workings within the specialty
11. Health care system's influence	Health care system's both positive and negative influence on patient outcomes include national and regional health care payer rules/regulations, and institutional values or organizational issues beyond individual HCP or particular HCP discipline. OC 38. Insurance limiting optimal health care access

Table 7. (Continued)

Name of Axial Code	Axial Code Definition and Corresponding Open Codes (OC)
12. PT's view of successful patient outcomes	PT's understanding of their definition of successful patient outcomes OC 11. Achieving patient's own goals OC 12. Patient's satisfaction with physical therapy process and outcome OC 13. Patient's absolute achievement OC 14. Patient going home and returning to self OC 27. Patient regaining the quality of life back OC 33. PT's narrow scope of patient outcomes OC 34. PT's global view on patient outcomes OC 43. Patient's functional improvement
13. PT's learning in the clinical context	PT's learning in the clinical context means PT gaining new information or insight through direct patient care, discussion with colleagues, mentoring, administrative aspects, and exposure to the clinical setting itself. OC 15. PT's recognition of outcome variability OC 57. Clinical experience as a main source of information and inspiration
14. PT's continuing own learning	PT's continuing own learning occurs outside the clinical work site and directed by his/her own initiatives for continuing professional growth OC 58. Networking through conferences
15. PT's learning through academic education	PT's learning through academic education for prerequisites as well as continuous learning opportunities.
16. PT's own illness/injury experience	Self or family illness/injury experience that impacts how PT practices
17. PT's personal experience	PT's personal experience not related to own illness or injury

PT: physical therapist, SPO: successful patient outcome, HCP: health care professional

The data saturation was reached before initiating patient care notes review as a part of the artifact collection. Axial codes 13 through 17 were not found among all reviewed patient care notes. The informal observation and other artifacts collected at the participants' practice site were limited to codes 5, 8, and 13.

Interviewee Summary Result

Following axial coding described above, an interviewee summary was written for each participant. At this stage of analysis, the researcher attempted to interpret all of the data collected for each participant by reading two interview transcripts of each participant. Thus the numerical results of axial coding, such as the number of text units coded by a specific axial code, served to verify rather than to drive the researcher's interpretation of the interviews. The title of the interviewee summary consists of each participant's pseudonym and a quote from the interview that represents the participant's beliefs about successful patient outcomes. Table 8 presents the interviewee summary headings in the order of appearance and data sources contributed to each content. All 13 interviewee summaries can be found in Appendix I. They are presented in ascending order by the participant's total years of experience.

Composite Narrative of the Novice PTs' Beliefs

Through comparative analysis of interviewee summaries of all 6 novice PTs, the interpretation of the data was organized into four conceptual components (CCs) of beliefs about successful patient outcomes. They are: 1) facilitating factors, 2) interfering factors, 3) conceptualization of successful patient outcomes, and 4) influential factors in belief formation with respect to successful patient outcomes.

Table 8.

Interviewee Summary Headings and Corresponding Data Sources

Interviewee Summary Headings	Data Sources				Researcher's Writing
	Interviews	Artifacts	Resume	Demographic Data	
Interviewee Characteristics	✓		✓	✓	
Coding Characteristics	✓*				
Facilitating Factors for SPO	✓*	✓*			
Interfering Factors for SPO	✓*	✓*			
Perceived Influences in Interviewee's Belief Formation	✓*	✓*			
Factor Sort Results	✓				
Potential Researcher Bias					✓
Conclusion					✓

Note. SPO: successful patient outcomes, *Axial Coding

CC1: Facilitating Factors For Successful Patient Outcomes

The most important facilitating factors were characterized as those external to the PT's direct control. They included patient motivation and/or commitment, patient family support, and patient's medical status and/or learning abilities. The square bracket, such as [Koi1:46 - 49], indicates the pseudonym given to each participant, first or second interview, and the text units hat uniquely identify the sentences in that interview transcript.

Theme 1: Patient Motivation is Important Ingredient for SPO

Five out of the six novice PTs identified patient motivation/commitment as one of the most important facilitating factors for successful patient outcomes. Koi described a 52-year-old man with Guillian Barre syndrome in the following excerpt.

> Basically I really feel a lot of the patient's success stemmed from his own motivation. He is very motivated to get better. He is very hard working in therapy. Even in the very beginning when he was too sick to even tolerate that much, he was still expressed being happy to see me and knowing that I was there. [Koi1:46 - 49]

Kaki's most successful outpatient case involved a woman with right upper extremity lymphedema who received a total of 14 sessions and achieved 44% edema volume reduction. When Kaki was asked what contributed to her patient's success, she replied:

> Her commitment to the program. I think with me really instilling the fact that ultimately her success is up to her. And I can only do so much and show her so much, that it really was her commitment to the program because not everybody gets phenomenal results like she did. [Kaki1:71 - 73]

Saba contrasts motivated patients who actively seek care with those who are passive recipients of physical therapy services in general.

> The patients who are almost requesting that they actually physically want us there, versus a doctor saying that person is deconditioned and needs us. Someone who is actively seeking to work with us, usually have much better outcome from everything I've seen before. They are usually the ones who are willing to put in their time, and understand why they are doing what they are doing, and…almost across the board, I would say, all

> the patients, who…have done the best…actually are interested in doing it and working. [Saba2:12 - 14]

Theme 2: Patient Family as a Source of Information

Five out of the six novice PTs stated that family support is important for successful patient outcomes. Some of them specifically stated that the concept of family would not necessarily be limited to blood-related family members, but most of the examples given were the patient's spouse, parents, siblings, or children. The patient's family members could offer crucial information in order for the PT to understand the patient's home environment or what motivates the patient. Ikura described what she could learn from parents of her pediatric patient in order to improve the child's motivation.

> Over there [at the pediatric hospital] the parents are really involved in their child's care. So you have to take the parents into consideration almost as much as the patient because those are the ones going home to. And nobody else really…the parents have to take the burden of the care. [Ikura1:74, 76]
>
> Same thing with motivation. It's hard, like parents know their child better than anyone, and you have to some time lean on their parents to guide you in what motivates this child. Maybe I don't know that such and such will get this child motivated. I'm trying something else, and then the parents say, "No, you do this, then maybe." You rely on the parents a lot. [Ikura2:107 - 111]

Theme 3: Patient Family as Physical & Psychosocial Support During and After Discharge

In the following excerpt, Koi expressed physical as well as psychological support that the family gives to the patient during his hospitalization and potentially after being discharged.

> [S]upport system is so important, especially I think in this type of setting [acute care hospital]. His wife came in every evening to visit him and his son…flew in from Florida. And what was nice was his son really was fluent with his English, and he helped our sessions a great deal because he was able to help me to translate a little bit better. And the fellow was very supportive, and a lot of times he was able to come with the patient to therapy…And I think that was nice for the patient as well to know that he had that kind of support, and nice to know that as you work with the patient and he eventually does go home, and if they still need help, there would be a good support system to get him that. [Koi1:56 - 60]

Saba stated that he realized the patient's family involvement improved significantly after a family-health care team conference. He described some visible signs of good family support and their potential contributions during the patient's hospital stay in the attainment of a successful outcome in the following excerpt.

> [S]he had more recreational materials brought from home, things that she would [be] interested in, whether it was books, or magazines, or crossword puzzles, things like that. Brought things [that would] sort of break the cycle…they were trying to have a family member there a lot and luckily they had a large family and resources to do that. So they were able to split up their time and be around, be available to…get out of…the hospital mindset and then reinforce, specifically reinforcing exercises, the exercise journal and log book I gave her. I saw that they were helping her through those and helping her with them, so I thought that they took really pretty nice role in that. [Saba1:195 - 198]

Theme 4: The Better Patient Medical Status the Better the Outcome

Three out of the six novice PTs pointed out the significant negative correlations between the severity of the primary disease or comorbidities and the patient outcome. When Uni was asked whether she meant a positive correlation between the patient's premorbid level of function and the outcome--the higher the patient's prior functional level, the better the patient outcome--she responded:

> The better. I mean the [more] functional…I think the person can be independent, and in any circumstances that is a positive outcome. But someone comes at lower level, someone comes with more issues, it is more difficult to have a positive outcome, it's more, like, first the person has more trouble, or they won't be able to get independent. [Uni1:220 - 221;223 - 224]

Kaki listed cerebrovascular accidents (CVA), congestive heart failure (CHF), and other heart diseases as examples of comorbidities that would complicate lymphedema reduction. She emphasized the PT's role in providing the patient with an accurate view of the patient's medical status and appropriate expectations.

> Just making sure that the patient is aware of what comorbidities can make it difficult for their edema reduction, to really give them a realistic view of edema reduction, somebody who had CHF really trying to tell them, your results would be there, but may be minimal and may take longer time. [Kaki1:198]
>
> Somebody that has a greater stage of lymphedema, somebody that has stage 4, or elephantiasis, it's more difficult to get those good results with them, so definitely makes it hard to get the results that you want with when their severity of their pathology is worse. [Kaki1:203]

Toro described how a *comorbidity* could limit physical therapy interventions in the case of uncontrolled hypertension found among many patients with stroke.

> A comorbidity such as hypertension happens all the time with a lot of stroke patients that I get. …when I'm trying to treat them down here [PT gym], and their blood pressure is sky high because they have hypertension as a comorbidity that…put a limit at times …[on what] I can do, when they come down here, and 200 plus over 100 plus. [Toro1:252 - 253]

As an exception to the theme described above, Toro provided an example of a positive side of having a chronic comorbidity. "If somebody has diabetes as a chronic condition, that may be good because maybe they know how to deal with it" [Toro1:244].

Summary of Themes

Table 9 summarizes four themes, corresponding axial codes, and short quotations that compose the first conceptual component, novice PTs' beliefs about facilitating factors for successful patient outcomes.

CC2: Interfering Factors for Successful Patient Outcomes

Similar to facilitating factors, all the most important interfering factors were characterized as the external to the PT's direct control. They included lack of patient motivation and/or commitment, patient's medical status and/or learning ability, and lack of health care access.

Theme 1: Experienced Unmotivated Patients

Four out of the six novice PTs addressed lack of patient motivation and/or commitment as a main interfering factor for successful patient outcomes. Koi described a patient as a man who was in his mid 70s with CHF. He not only had poor ability to participate in therapy due to his disease process, but he also had a nonoptimum support system which resulted in an undesirable disposition that might have adversely affected his *motivation* throughout his hospitalization. In the following excerpt, Koi acknowledged her patient in a complex social context rather than simply as a patient with CHF.

> [I] did work with a gentleman who was older, who came to the hospital because of the congestive heart failure exacerbation, and with fairly functional before he came in with getting around by himself, family came in and out his home just to check on him make sure he was OK. And when he came in, my goal was really to getting back to that functional level. [H]e had a lot go on during his time in the hospital which included renal failure and need to go on hemodialysis. And no matter how hard I tried, he really just became depressed, kind of gave up; he was a recent widower as well and I don't think that really helped, and I would have liked to have seen him kind of go back to his home, and in a long run what happened was he ended up going home with his family, not that wasn't successful, because they were taking him home, but the family was talking about selling the home and everything. He was just having really hard time struggling with that. And I think he did want to go home…but his functional level, he just needed too much assistance to go home safely. And he was a struggle as far as getting to participate and getting to find that motivation within to kind help him. [Koi1:357 - 363]

After describing the above patient's complex social context that coincided with the lack of motivation, Koi attempted to generalize what could often be associated with a lack of motivation.

> [S]ometimes I see commonality as far as when there is a lack of motivation, there is a lot of other things going on. Maybe particular something else going on in their lives, like family situation, like this gentleman was newly widowed. Another commonality would be a patient with really severe medical problems, or really having to adjust to a new, new diagnosis, such as cancer, and going to chemo[therapy] or radiation, or new amputation; sometimes it's hard at the beginning and the motivation can be a challenge. [Koi1:404 - 406]

Table 9.

Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 1 (CC1)

	CC1: Novice PTs' Beliefs About Facilitating Factors for SPO
Theme 1	Patient motivation is important ingredient for SPO Patient Psychosocial Status (AC1) "I really feel a lot of the patient's success stemmed from his own motivation" [Koi1:46]. "[I]t really was her commitment to the program because not everybody gets phenomenal results like she did" [Kaki1:73]. "[H]is motivation is the most important right now" [Uni1:23].
Theme 2	Patient family as a source of information Family/Social Support (AC3) "[P]arents know their child better than anyone and you have to some time lean on their parents to guide you in what motivates this child" [Ikura2:108]. "[H]is son really was fluent with his English and he helped our sessions a great deal because he was able to help me to translate a little bit better" [Koi1:57].
Theme 3	Patient family as physical & psychosocial support during and after discharge Family/Social Support (AC3) "Basically family members or friends that can provide or assist with care once the patient goes home" [Ikura1:220]. "[T]he family plays a significant role…what happens to the patient when they go home" [Koi1:213]. "[B]e available to…get out of…the hospital mindset and then reinforce, specifically reinforcing exercises" [Saba1:197].
Theme 4	The better the patient medical status the better the outcome Patient's Medical Status (AC2) "Cognition in the ability to follow commands to participate that safety picture, safety pieces is always huge" [Koi1:313]. "I've seen people who shouldn't be able to walk, walk just because they can understand and follow directions" [Saba1:328]. "I'm seeing [GCS (Glasgow Coma Scale) of] 15, 14, whatever, and walking around in their room, they maybe able to do all the stuff in the outpatient bases" [Toro1:318].

Note. SPO: successful patient outcomes, (AC #): axial code number

Theme 2: Emphasize Patient's Responsibility to Get Better

Four out of the six novice PTs implied that the patient is ultimately responsible for his or her successful outcomes. Regarding the patient with CHF, who struggled to get motivated, Koi stated: "I didn't see him taking that responsibility for his care" [Koi1:390]. It implied that Koi emphasized the patient's responsibility to improve his status. Toro had a similar statement: "[P]eople don't take responsibility for their health" [Toro1:583]. In her narrative of her most memorable unsuccessful case, Kaki described her patient as a 41-year-old female who worked as a nurse's assistant at Kaki's current facility. This patient presented with left lower extremity lymphedema secondary to cervical cancer treatment. Her chief complaint was pain, decreased cosmesis, and decreased ability to perform her ADLs (activities of daily living) and work. Kaki planned to meet with her five times per week, but in reality she was seen four times per week for 2 weeks, then one to two times per week for 7 more weeks. At her patient's discharge, Kaki noted 62.4% edema reduction from the initial volume (Artifact Pt 1). In the following excerpt, Kaki implied that this was unsuccessful because the patient did not follow her recommendations.

> [H]er case was a little bit more different because she kept complaining that the bandage is sliding down during work. She didn't want to wear the form padding which made it less likely for the compression bandaging to fall down. I explained that to her over and over again. [S]o she complained about compression bandaging, she never wore at work, she told me she was bandaging at night, so ended up getting her a MediAssist, which is a substitute for compression bandages. It…looks like a knee immobilizer but it comes all the way up to the groin area all the way down to the ankle...with Velcro strap, it also had the compression gradient in it. And she wasn't consistent with that either. She kept telling me that stuff didn't fit inside the clothes and yeah, I would go out and get bigger clothes, and she never did. [Kaki1:286 - 292]

Theme 3: Comorbidities Complicate Patient Progress

Three out of the six novice PTs stated that the patient's poor medical status or a lack of learning ability would interfere with successful outcomes. In her unsuccessful case, Ikura described her patient as a 62-year-old man who was HIV positive, with hepatitis C, end-stage liver disease, and end-stage renal failure. His physician recommended that he walk, but he needed physical therapy. During a PT session at his bedside, the patient remained nonverbal but able to follow commands by nodding and performing manual muscle testing properly. He transferred from his bed to a chair with supervision upon receiving instructions on proper transfer techniques from Ikura. Ikura continued to state why it was perceived as an unsuccessful case.

> We started to do therex [therapeutic exercise] and all of the sudden he became unresponsive. He ended up expiring. But at the time to me it was unsuccessful in that I was by myself in the room, yelling for someone, and no one came to help me. And this guy, he was 6 [foot] 2 falling out of chair, I was holding and I could not go out to find help, I couldn't take his vital signs because I was by myself…So to me that was unsuccessful in that because he expired. [Ikura1:347 - 350;353]

Theme 4: Lack of Patient's Learning ability limits SPO

Three out of the six novice PTs expressed that the patient's learning ability is crucial for his or her outcomes. Saba described his patient with traumatic brain injury who was unable to carry over anything he learned to the next day. Saba appeared very frustrated with not being able to help the patient accomplish independence. "Groundhog day, it's the same day over and over again" [Saba1:261]. "It really was a process of small gains every day that was erased by the next morning" [Saba1:332].

> [E]very single treatment session was the same treatment session almost, because he cognitively was unable to carry something over from one day

> to the next…that's what something we were aware of right from the beginning, and trying to make more of the impression that things no matter what you gained one day, they didn't necessarily translate at all to the next day. [Saba1:257]

Theme 5: Lack of Health Care Access Compromising Patient Rehabilitation Potential

Three out of the six novice PTs addressed a lack of health care access as one of the most important interfering factors for successful patient outcomes. When the PT believes that the PT intervention is going to improve the patient's status but is unable to provide care due to a lack of health care access, the PT experiences the dilemma and frustration. Ikura stated that the interviewer's questions involving hypothetical situations, such as different insurance coverage, prompted her to consider insurance as a potential interfering factor for successful outcomes. Although she reported that she treats everybody the same regardless of insurance coverage, she was aware of the difference the insurance coverage would make for the patient's follow-up care, such as acute rehabilitation or outpatient care. She gave the following example to illustrate the potential consequence of a lack of health insurance.

> [I] had a patient who doesn't have insurance, self pay, 18-years-old, gun shot wound that having some nerve damage, not sure exactly sure what's going on, but she's got foot drop, and she needs a MAFO [molded ankle foot orthosis]. And I called around, and that I came down to two places, and one place wants once she gets the insurance, then give me a call. The other place that [said], "if you do us a favor and you send more people to us, then we will do this pro bono"...You don't find [free service] very often. And that the patient really needs that, but what do you suppose to do at this end. [Ikura1:537 - 541]

Uni has seen patients who, despite their need for inpatient rehabilitation service or equipment, didn't receive them due to a lack of insurance coverage.

> Insurance...equipment and...Say you have a patient written off without insurance, and this person needs to go to an inpatient rehab, but this is no way. [P]eople without papers not being an immigrant…no recommendations, they won't. [S]ometimes they do, but [in] real life, they probably have to go home, and they have to ask for services for bonus [free of charge], or somebody to come see at home. [Uni1:228 - 230]

Summary of Themes

Table 10 summarizes five themes, corresponding axial codes, and short quotations that compose the second conceptual component, novice PTs' beliefs about interfering factors for successful patient outcomes.

Table 10.

Novice PTs' Themes, Corresponding Axial Codes and Sample Quotes Related to Conceptual Component 2 (CC2)

	CC2: Novice PTs' Beliefs About Interfering Factors for SPO
Theme 1	Experienced unmotivated patients
	Patient psychosocial status (AC1)
	"[H]e was a struggle as far as getting to participate and getting to find that motivation within to help him" [Koi1:363].
	"He didn't value it [physical therapy] as helpful and important" [Saba1:287].
	"I think this[motivation] is something that I probably don't have whole a lot of control over. [T]hat's ultimately their games." [Kaki1:175 - 176].
Theme 2	Emphasize patient's responsibility to get better
	Patient psychosocial status (AC1)
	"I can try to encourage them as much as I can but I can't make someone do something" [Ikura1:233]
	"I think with me really instilling the fact that ultimately her success is up to her" [Kaki1:72].
	"I didn't see him taking that responsibility for his care" [Koi1:390].

Table 10. (Continued)

Theme 3	Comorbidities complicate patient progress Patient’s medical status (AC2) “We started to do therex and all of the sudden he became unresponsive. He ended up expiring” [Ikura1:347 - 348]. “[Y]ou get more comorbidities, the worst outcome you could have…” [Kaki1:387]. “[H]ypertension as a comorbidity that put a limit at times, someone I can do when they come down here [PT gym]” [Toro1:253].
Theme 4	Lack of patient’s learning ability limits SPO Patient’s medical status (AC2) “It really was a process of small gains every day that was erased by the next morning” [Saba1:332]. “[A]s a safety issue… they are unable to overcome that neglect and there are risk of falling, and it seems no matter what you do… you just exhaust all your treatment strategies…”[Ikura1:560]. “[I] had a patient who had CVA on her lymphedema side, so it was very difficult for her to learn to bandage herself because she had flaccid side and it was hard to control the arm and bandage” [Kaki1:193].
Theme 5	Lack of health care access compromising patient rehabilitation potential Health care system’s influence (AC11) “[A] patient…without insurance…needs to go to an inpatient rehab, but this is no way” [Uni1:228]. “[T]he patient needs rehab and…and they can't get it” [Ikura1:525] “[I]nsurance can definitely play an issue. A lot of times some insurance will not pay for acute rehab, but we'll cover the skilled nursing facility [Koi1:324].

Note. SPO: successful patient outcomes, (AC#): Axial code number

CC3: Conceptualization of Successful Patient Outcomes

Theme 1: Variability in Plasticity of Beliefs About SPO

When the participants were asked if their beliefs had changed over time during their PT career, three (Uni, Ikura, Toro) out of the six novice PTs did not acknowledge any change in their beliefs about successful patient outcomes since the beginning of their career.

> I think it's [the definition of a successful patient outcome is] pretty much what I was thinking. I think with experience you definitely learn, what a patient's success to them is and safety is always the number one key factor. [Ikura1:322 - 323]

In the following excerpts, Kaki and Saba implied that their changes were in progress.

> I think it [my beliefs about successful patient outcome] changed. I think when you are in your school, they focus so much on tests and measures and using this test to show that they can walk this far or that they can move their leg this much, and I think they are great and everything, but if the test or measure shows that they are successful but the patient still is angry because they can't use the bathroom on their own, that's not to me is a successful patient outcome. I'm really trying to find the medium between tests and measures and what the patient's telling me. It has a lot to do with experience too. [Kaki1:233 - 236]
>
> [E]ven right now…we send people in wheelchairs, and that to me that's not very successful. I would say that's sort of last resort, saying they are not going to be able to get around in any other way. So as a student, I would probably thought that in some way, we failed or we didn't achieve what we needed to achieve. But now I look at things and physically and mentally being independent with your life and not needing someone to do for you is successful…I guess my attitude…has changed, sooner that we can get somebody a little bit more independent in their own life, then they can continue to work towards improving the quality of their life after that. [Saba1:210 - 213]

As an exception among novice PTs, Koi reported that her beliefs definitely had changed over time, and she hoped that she would continue to change through continuous learning. "I still think myself as a student and…I hope I always do because there is so much to learn and so much to grow" [Koi2:172].

Theme 2: Independence Through Functional Improvement

The participants' own definition of a successful patient outcome provided insight into what their intended successful patient outcomes were without specific contextual information. Unlike recalling their most memorable successful cases, participants were able to specify their own preferred domains of success and the timing of successful patient outcomes, such as upon discharge versus long-term far beyond the discharge from the acute care hospital. All 6 novice PTs indicated a successful patient outcome involved improvement in the patient's functional mobility in their own environment.

> Patients that can come back to [their] previous level, or at least being independent, be able to do things on their own, that can…still [be] limited, …still participate in the society and, that can still, those things on their own that they enjoy in life. [Uni1:238]

Theme 3: Rehabilitation Placement From Acute Care Setting

When achieving independence is not attainable in the acute care physical therapy, at least the patient could demonstrate a good potential for becoming independent so that he or she could be transferred to an appropriate facility, such as an acute rehabilitation hospital or a skilled nursing facility (SNF). Three out of the six novice PTs discussed the rehabilitation placement as a part of successful patient outcomes. "Basically achieving patient's personal goals, making the patient safe to return to wherever they are going or achieving the goals to get them into rehab facility or skilled nursing facility in the same fashion" [Ikura1:319]. Similarly, Koi stated: "[T]o see a patient progress until they could transfer into a rehab setting to continue to work on their independence before going home” [Koi1:100]

> In my mind as an acute therapist, a short term successful patient outcome is having somebody being able to get up to rehab if they are appropriate. Long term-wise is that they are able to go home independently, but if you are asking me as an acute therapist, it’s successful to me if the person shows potential and is able to improve to the point that I can say this person needs a little bit more therapy in rehab before they go home. [Toro1:308 - 309]

Patient Satisfaction is Also a Part of SPO. Two novice PTs clearly described the importance of the patient being satisfied with the outcome, regardless of the clinical outcomes, such as decreasing impairment. “I also like successful patient outcome to be that the patient is also happy with the outcome. You know that patient’s goal has also been met” [Koi1:261 - 262].

> I define them [successful patient outcomes] not only by their improvement in their function, but by patient’s report, because I’m not the one living with their problem. And if…they only lose 20% edema but the patient is psyched because now they can bend their elbow, and they can bend their wrist. Well that’s a great outcome for them, I kind of gauge it on the patient’s report. [Kaki1:222 - 224]

Theme 4: High Patient Motivation Contributed to Most Memorable SPO

Although the actual interventions and patient outcomes were not observed, the participants’ descriptions of their most memorable cases illuminated their beliefs about successful patient outcomes with specific contextual information, such as the patient’s medical diagnosis, motivation, family involvement, and the PT’s perception of the level of success or lack of success throughout the episode of care. The strongest commonality among the successful cases that novice PTs described was found to be the main contributor to the success. When participants were solicited to describe what contributed most to their successful case, 4 out of the 6 novice PTs emphasized the existence of excellent patient motivation. In the following excerpt, Ikura describes a 19-year-old patient who had a stroke as a post operative complication of a ventriculoperitoneal (VP) shunt placement.

> Motivation, perseverance really made a difference. This girl was not going to give up. And you really have to have the patient motivated to be able to accomplish your goals. If you don't have the patient on your side or trying to work, you are not going to get where you want to get. [Ikura1:88 - 91]

The second commonality found among successful cases was the absence of any significant effort of the PT or challenges that the PT encountered in order to attain successful patient outcomes. Saba was the exception among 6 novice PTs in that the successful case involved significant challenges for him to overcome. "When I saw her, very depressed, very unmotivated, very deconditioned, and energy level was pretty much nonexistent, so it was a struggle just to get her to participate in the first place" [Saba1:12].

> I felt like we were really hitting the brick wall with her. I've been in contact with her family, especially in acute, very critical stages, they were very interested but they weren't necessarily helpful…When we got up to the ventilator rehab unit, we were still running in[to] that same obstacle with mostly with the patient, and it gets to a point where you can keep beating your head against the same wall over and over…and it's not going to change anything. [Saba1:188 - 189]

According to Saba, excellent health care teamwork was noted as a main source of success. He acknowledged that it wasn't a common phenomena at a large teaching hospital where health care professionals would constantly be rotating.

> I would say just fantastic cooperation, the nursing staff was wonderful helping out. Also since she was on the ventilator rehab unit, there they had a respiratory therapist…who was intricately involved and she had such a hard time weaning from the ventilator that, all the time, we had a portable ventilator we used to move around on and it's bulky, it was tough and she was a tough patient to care for in general, so they really helped out monitoring a lot of the equipment and helping me with that. [Saba1:28 - 29]

As another exception to the two commonalities described above, an extra length of stay in the acute care hospital was considered as a main attribute to a successful outcome. Toro described his patient who regained her cognitive abilities following her cervical spine fracture in the following excerpt.

> But ultimately it's in God's hands, and, like with her, what a difference of few months have made…why she has turned the corner, I don't know… if it's just the time and the plasticity, or whatever. Why her cognitive portion cleared up with the C1 fracture, I don't know. Is she drying out from the years of alcohol abuse? I don't know, time has helped. [Toro1:551 - 554]

Summary of Themes

Table 11 summarizes four themes, corresponding axial codes, and short quotations that compose the third conceptual component, the novice PTs' conceptualization of successful patient outcomes.

CC4: Influencing Factors for Belief Formation

Various types of participants' experiences were classified into professional and personal experiences. Main professional experiences included clinical internships, learning in the clinical context, and learning through interactions with his or her colleagues, whereas other professional experiences mentioned were academic education

Table 11.

Novice PTs' Themes, Corresponding Axial Codes, and Sample Quotes Related to the Conceptual Component 3 (CC3)

CC3: Concept of Successful Patient Outcomes

Theme 1 Variability in plasticity of beliefs about SPO
- PT's views of SPO (AC 12)
  - "I'm really trying to find the medium between tests and measures and what the patient's telling me" [Kaki1:235].
  - "I still think myself as a student and…I hope I always do because there is so much to learn and so much to grow" [Koi2:172].
  - "I think it's [current definition is] pretty much what I was thinking" [Ikura1:322].

Theme 2 Independence through functional improvement
- PT's views of SPO (AC12)
  - "[A]t least being independent, be able to do things on their own…" [Uni1:238].
  - "[T]hey are able to go home independently" [Toro1:309]
  - "[S]ooner that we can get somebody a little bit more independent in their own life, then they can continue to work towards improving the quality of their life after that" [Saba1:213].
  - "[Y]ou are trying to make patients functionally independent and that's for both acute care and for orthopedic" [Ikura1:86]

Theme 3 Rehabilitation placement from acute care setting
- PT's views of SPO (AC 12)
  - "[T]o get them into rehab facility or skilled nursing facility…" [Ikura1:319].
  - "[T]o see a patient progress until they could transfer into a rehab setting to continue to work on their independence before going home" [Koi1:100]
  - "[A] successful patient outcome is being able to make a correct recommendations for where somebody needs to go, or continue therapy [Toro2:253].

Table 11. (Continued)

Theme 4	High patient motivation contributed to most memorable SPO Patient’s psychosocial status (AC1) & (AC12) “He was very dedicated, very motivated gentleman” [Koi1:37]. “[B]asically I really feel a lot of the patient's success stemmed from his own motivation” [Koi1:46]. “Motivation, perseverance really made a difference” [Ikura1:88].

Note. SPO: successful patient outcomes, (AC #): Axial code number

and continuing education courses. Main personal experiences included care giving experience for a family member, family values, and other work, whereas other personal experiences mentioned were personal illness and leisure experiences.

Theme 1: Both Positive and Negative Clinical Education Experience Influencing Current Beliefs

Internship and/or externship experience was far more significantly influential in the novice PTs’ belief formation in comparison with academic education. Five out of the six novice PTs addressed their internship and/or externship experience as a source of influence. Saba described how his clerkship preceptor impacted how he would want to practice and contribute in successful outcomes—by avoiding being repetitious and being creative in patient care.

> And what I happened to have was excellent, and he really told me right from the get-go, that you can either do this job like a monkey and sort of just follow, do the same thing every single time, or you can kind of adjust it and be much more involved in the patient care, much more creative approach... [Saba2:35]

Ikura’s observation of her clinical instructor (CI) made her aware of the need for understanding the patient’s background, such as his or her educational level, in order to make her intervention most effective.

> [M]y CI was very intimidating to me, and I noticed to some other patients, he was so bright, and I mean the jargon that he used, the patients didn’t understand everything, and that time I didn’t understand half of the stuff he was talking about either, so…I did learn something from that in that…you have to talk down to the patient’s level. In this area, maybe a patient’s education is only up to eighth grade, I mean you don’t know. [Ikura2:65 - 66]

Theme 2: Clinical Experience as a Primary Source of Learning about SPO

Five out of the six novice PTs stated the importance of learning in the actual clinical context where their skills and knowledge are applied to their patient care. Kaki appeared to consult her own patient data base in her brain for both approaches and potential outcomes for her new patients.

> [I] think when you are fresh and new, you are not sure what to expect, but when you see the same type of patients over and over again, you can kind of gauge, well I had this patient, did this well, and I had this patient that didn’t do that well. You can kind of use your prior knowledge to kind of gauge patient’s success too. [Kaki1:238 - 239]

Although there was no specific incident or encounter involved, Koi acknowledged her belief change during the last 2 years based on her direct patient care experience.

> I think in the 2 years that I practiced my thoughts about successful patient outcomes has changed based on my…real patient care experience. When I came out from school, a lot of times I had this ideal in my head where I always wanted to see the patient achieve and being in the…real world and reflecting on other characteristics that…play into that, and people being different in having different situations and really appreciating how much

> that I can truly affect the outcomes that patient can achieve, that definitely something that changed with me. [Koi2:108 - 109]

Toro implied that some concepts were much easier to learn through practice than through formal education. Toro's ability to make a good call for disposition recommendation was facilitated by both his clinical internship experience at a rehabilitation hospital and his earlier practice where he was able to follow his patients from acute-care through the rehabilitation unit.

> [I] think that's the very difficult concept, and I'm always trying to work with the students…say, "Here is the situation, what would you think about?"…until you actually[be] in practice, it's really hard to apply some of that to understand exactly. It's not rocket science, but at the same time till you practically get to apply it to a patient, it's hard to really understand the differences... [Toro2:155 - 157]

Value Learning Through Colleagues. Two novice PTs discussed their appreciation for learning through their colleagues. In addition, Kaki valued her colleagues' collaboration, which promoted her further learning skills and knowledge from other's expertise.

> [I] think the biggest reason that made me want to give my resume here was the camaraderie with the staff and the support that everybody has. We are rather large staff, but not everybody is expected to be an expert in every single thing, and I think that we have such a plethora of people's experiences and knowledge and what their expert[ise is] and that makes me feel comfortable to come back to my colleagues and have any questions and know that I'll be answered in a professional manner and not kind of talked down to. [Kaki2:41 - 42]

As the youngest staff member in her department, Ikura stated that she also valued her colleague's opinion and support. She states: "[T]here is always somebody to ask questions to and to find out, 'OK well you had success with this patient, how did you go about?' So definitely colleague help makes a big deal" [Ikura2:29 - 30]

Theme 3: Family Illness Changing Perspectives About Illness and the Role of PT

Three out of the six novice PTs described how their family members' illness experiences influenced their beliefs. Uni stated how engaged she was in her cousin's physical therapy because the therapist was effective in incorporating her into the treatment program. Saba's mother's chronic condition gave him the opportunity to reflect on how vulnerable the patient might feel during hospitalization.

> I always think it's funny after working in the environment, how used to, even in a year, you also get very used to certain things…so much of it is routine, and taking a step back just going into an unfamiliar hospital, helping my mom out there, just seeing more, or like how they tell her the way, what was expected of the nursing staff, or what was procedure-wise when the communication between the doctors and the patient, I always take a step back, and realize the patient really is usually pretty scared, usually not at their best, and there are so much being thrown at them that is not explained, so it makes me want, I try, almost to the point of over-explaining…but I…just want to keep orienting people, explaining what's going on, explaining what to expect in a future, so definitely, and every time I think, I notice over the course of the year, I seem to learn that, forget that, and then get reminded, learned it, forget it, learn, it's a continuous cycle…[T]his is not that routine, the person, this is, the person might need a little better explanation of what, why, and when. [Saba2:185, 189]

With her father's heart attack, Ikura gained a better understanding of illness as well as the recovery process. This understanding gave her a little more strength and comfort working with those suffering from life-threatening conditions, such as heart attacks.

> [I]t happened…3 weeks ago, so it's been a personal thing that…but it's definitely opened my eyes. Before when I saw like, "Rule out MI" I was

> always…more afraid that, "Oh I don't want to see that patient, they are going to have a heart attack in front of me." Now that my dad had a heart attack, it almost made me understand that this is OK. They are going to be OK. So it really opened my eyes in little ways that making me comfortable now working with more cardiac patients. [Ikura1:474 - 478]

Theme 4: Family Values Influencing on PTs' Beliefs

Three out of the six novice PTs addressed their family's influence on their beliefs. Toro and Uni stated that they learned work ethics from their family members. Uni described the importance of being passionate and motivated in the profession in order to motivate others.

> [I] learned from my grandmother. She was always hard worker and she just…you got to keep your heart in what you do, and you need to do something that you enjoy and like. [I]f I'm motivated and to motivate people, if I don't feel like it…why should I expect somebody else to be motivated while I can't even do it. [Uni2:254 - 256]

Kaki described her mother's influence in forming her holistic view of a child that could be applied to the practice of a health care professional.

> My mom is a special education teacher. And just with her experience with kids with disabilities and what she brings home, the story she comes home with, I think that she…paint the picture of the whole child which really instilled in me, thinking of the whole child, not just everything. [Kaki2:175 - 176]

Theme 5: Applying Principles of Other Work Experience to PT Practice

Three out of the six novice PTs described other personal experiences involving work experience prior to becoming a PT, such as working with people with disabilities in aquatic exercise programs, tutoring students at college, and being responsible for planning utilization of the personnel and equipment of an entire Air Force Base as an officer. Ikura described her aquatic teaching experience for individuals with paraplegia that could directly be applicable in PT practice.

> It showed me that patience that I needed. The motivating factors that again you needed to get someone to want to do it. It really opened my eyes to a new experience to me and I loved it and that's really validated why I want to go to PT school. [Ikura2:170 - 172]

Koi stated what she observed during her tutoring students in college could be applicable to her patients' progress in rehabilitation and stated: "[T]he person's ability to take responsibility, to participate, or actually want to do better, or to achieve their goals and I've also seen this in the classroom settings as well [as a tutor]" [Koi2:63]. In addition, Toro stated: "[G]oing to a service academy and then having to provide a lot of leadership to younger military enlisted folks, and being under stressful conditions… So planning and programming was my job…If you don't plan ahead, you are in trouble" [Toro2:16, 175, 179].

Summary of Themes

Table 12 summarizes five themes, corresponding axial codes, and short quotations that compose the fourth conceptual component, the influencing factors for novice PTs' beliefs about successful patient outcomes.

Summary of Findings From Novice PTs' Beliefs

Figure 5 depicts a revised conceptual framework of PTs' beliefs about successful patient outcomes and main factors influencing PTs' beliefs based on the composite picture of novice PTs. The conceptual boxes bordered with bold lines indicate four

Table 12.

Novice PTs' Themes, Corresponding Axial Codes, and Sample Quotes Related to Conceptual Component 4 (CC4)

	CC4: Factors Influencing Novice PTs' Beliefs
Theme 1	Both positive and negative clinical internship experience influencing current beliefs Academic education (AC15) "[My CI] told me…that you can either do this job like a monkey and sort of just follow, do the same thing every single time, or you can…be much more involved in the patient care, much more creative approach..." [Saba2:35]. "[M]y CI was very intimidating to me… I did learn something from that in that…you have to talk down to the patient's level" [Ikura2:65 - 66] "[M]y CI was very good at pointing out to me the fact about really taking into consideration… all the factors that go into treatment plan and discharge home" [Koi2:25].
Theme 2	Clinical experience as a primary source of learning about SPO PT's learning in the clinical context (AC13) & (AC12) "You can use your prior knowledge to gauge patient's success" [Kaki1: 239]. "[W]ith experience you definitely learn…what a patient's success to them is…" [Ikura1:323]. "[M]y thoughts about successful patient outcomes has changed based on my having real patient care experience" [Koi2:108]
Theme 3	Family illness changing perspectives about illness and the role of PT PT's own illness and injury experience (AC16) "[H]elping my mom out there…I always take a step back, and realize the patient really is usually pretty scared, usually not at their best, and there are so much being thrown at them that is not explained, so it makes me…want to keep orienting people…" [Saba2:185]. "Now that my dad had a heart attack, it almost made me understand that this is OK…So it really opened my eyes in little ways that making me comfortable now working with more cardiac patients. [Ikura1:476, 478]

Table 12. (Continued)

Theme 4	Family values influencing on PTs' beliefs
	Personal experience (AC 17)
	"[Y]ou got to keep your heart in what you do, and you need to do something that you enjoy and like" [Uni2:254].
	"[W]ork ethic also by seeing my parents, and integrity and honesty and all that…" [Toro2:16].
	"My mom is a special education teacher. she…paint the picture of the whole child which really instilled in me, thinking of the whole child, not just everything" [Kaki2:176].
Theme 5	Applying principles of other work experience to PT practice
	Personal experience (AC 17)
	"[G]oing to a service academy and then having to provide a lot of leadership to younger military enlisted folks, and being under stressful conditions… So planning and programming was my job…If you don't plan ahead, you are in trouble" [Toro2:16, 175, 179].
	Patient's Psychosocial Status (AC 1) & (AC17)
	"[T]he person's ability to take responsibility, to participate, or actually want to do better, or to achieve their goals and I've also seen this in the classroom settings as well [as a tutor]" [Koi2:63].

Note. SPO: successful patient outcomes, (AC #): Axial code number

conceptual components of beliefs about successful patient outcomes. The difference between the initial conceptual framework based on the literature review (see Figure 2) and the revision (see Figure 5) indicates the discovery from the novice PTs data set beyond the currently available knowledge about successful patient outcomes.

The novice PTs' beliefs about facilitating factors for successful patient outcomes were patient motivation, patient family support, and patient medical status/learning abilities. Both the facilitating and interfering factors were found to be external to the PT's direct control. Among known facilitating factors, the therapeutic relationship, humanistic skills, therapeutic touch, the PT's ability to analyze the patient's problem, and procedural interventions did not appear in the data interpretation results.

The novice PTs' beliefs about interfering factors for successful patient outcomes were a lack of patient motivation, poor medical status/learning abilities, and lack of health care access. Facility-related interfering factors, such as time shortage and staffing issues, and facility limitations, were not mentioned by the participants. This might be related to the characteristics of the facility where the participants practice—being a teaching hospital, rather than a for-profit organization.

By asking the novice PTs whether their definitions of successful patient outcomes have changed over time, the potential for plasticity of beliefs was discovered. Three novice PTs did not mention any change, two PTs indicated their beliefs were evolving, and one PT reported that her beliefs had definitely changed. The novice PTs' views of successful patient outcomes are focused around the patient's functional improvement, independence, and rehabilitation facility placement. There were some notions of patient satisfaction; however, the participants' focus seemed primarily at the functional level along the disablement models (pathology → impairment → functional limitations → disability) presented as a Nagi scheme, and another (pathology → impairment → functional limitations → disability → societal limitations) as the National Center for Medical Rehabilitation Classification (American Physical Therapy Association, 2001).

The novice PTs' descriptions of their most memorable patient cases revealed their beliefs about the main characteristics of a therapeutic encounter with the most successful patient outcome. The most common characteristic was the existence of high patient

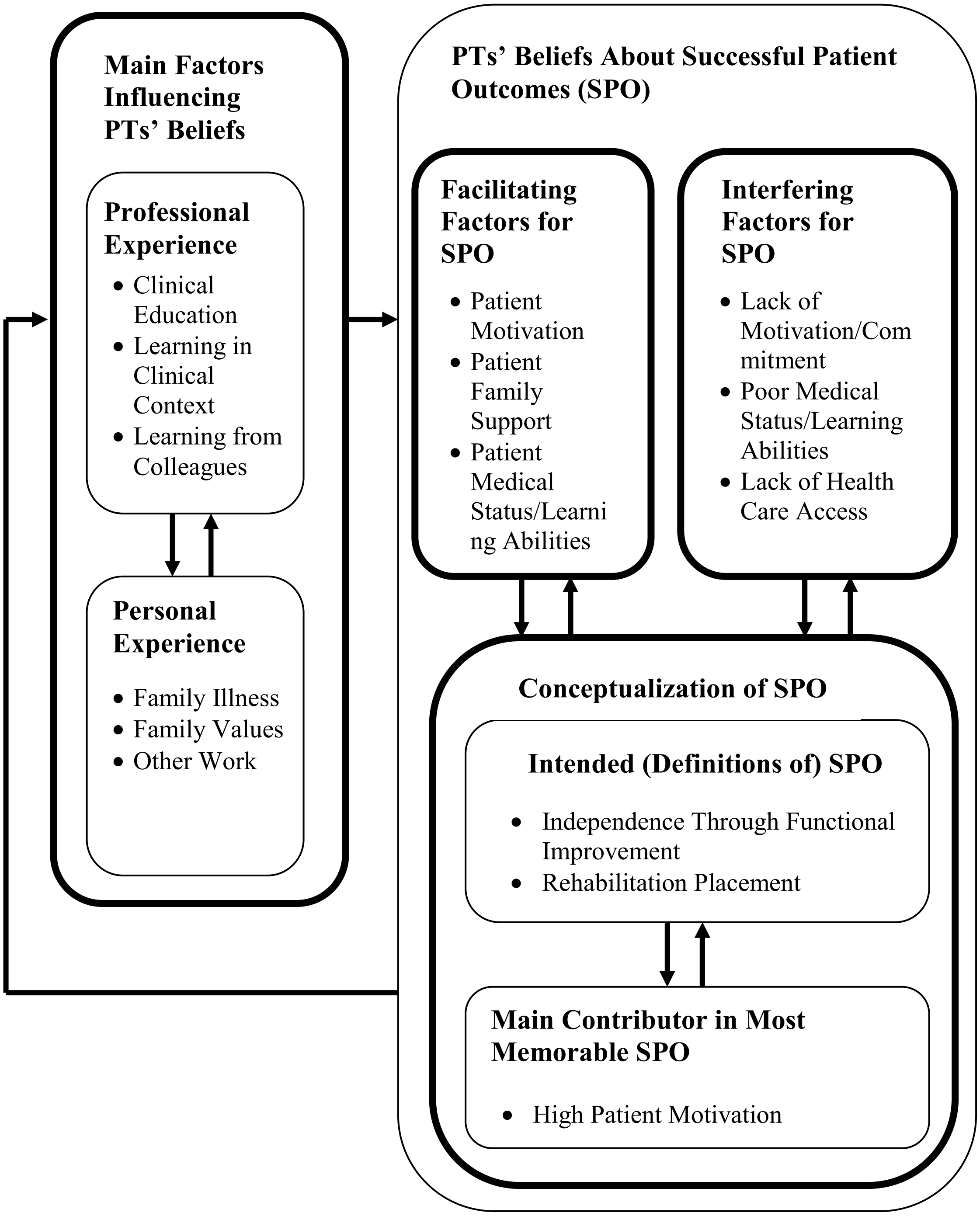
Main Factors Influencing PTs' Beliefs
Professional Experience
Clinical Education
Learning in Clinical Context
Learning from Colleagues
Personal Experience
Family Illness
Family Values
Other Work
PTs' Beliefs About Successful Patient Outcomes (SPO)
Facilitating Factors for SPO
Patient Motivation
Patient Family Support
Patient Medical Status/Learning Abilities
Interfering Factors for SPO
Lack of Motivation/Commitment
Poor Medical Status/Learning Abilities
Lack of Health Care Access
Conceptualization of SPO
Intended (Definitions of) SPO
Independence Through Functional Improvement
Rehabilitation Placement
Main Contributor in Most Memorable SPO
High Patient Motivation

Figure 5. Novice PTs' Beliefs About Successful Patient Outcomes & Main Factors Influencing PTs' Beliefs: Revised Conceptual Framework

motivation. By highlighting the patient's motivation as a source of success, the PT's own effort was not mentioned at all except for one participant.

Factors that influenced the novice PTs' beliefs came from both professional and personal experience. Their clinical internship experience was found to be one of the main influences, probably due to a recency effect. The novice PTs perceived their learning in the clinical context, including working with patients and discussing with colleagues, to be most influential in forming their beliefs. The participants did not mention research or specialization as a source of influence in their belief formation. Among various personal experiences, family members' illnesses, family values, and other work experiences appeared to be most influential for their belief formation.

Composite Narrative of the Experienced PTs' Beliefs

Through comparative analysis of 7 interviewee summaries of experienced PTs, the interpretation of the data was organized into four conceptual components (CCs) of beliefs about successful patient outcomes. They are: 1) facilitating factors, 2) interfering factors, 3) conceptualization of successful patient outcomes, and 4) influential factors in belief formation with respect to successful patient outcomes.

CC1: Facilitating Factors for Successful Patient Outcomes

The most important facilitating factors that the experienced PTs addressed had some degrees of PTs' ability to manipulate or influence upon. They were patient motivation/commitment, forming a good therapeutic relationship, and the PT's skills and knowledge.

Theme 1: Patient Motivation is Important Ingredient for SPO

Five out of the seven experienced PTs believe that patient motivation and/or commitment is one of the most important factors for successful patient outcomes. Aji stated the patient's inner motivation really made a difference in her outcome.

> I think the biggest thing was her inner motivation. First couple days I saw her, "Oh I really can't walk. I just hurt too much." And I came in the next day and she said, "You know what? I made up my mind I want to get out here soon and I need to do this. So show me what I need to do, so I can go home." I really think that she found something within herself that just clicked, and she kicked in the butt on her own. [Aji1:118 - 124]
>
> Aji described how she could observe good patient motivation. While Aji was providing the following statement, she quickly became aware that having a trusting therapeutic relationship does not guarantee good patient motivation. "Willing to try anything, even though it was uncomfortable for her...very cooperative with no matter what I tried with her. I could say trust, but I still think that people…can still trust you and…still it does not matter" [Aji1:151 - 152].

Based on her clinical experience, Fugu further described several observable signs of good patient motivation and her firm belief in the positive correlation between the patient motivation and the patient outcome.

> Your people who are going to do well are the people who are like, "I want to get better. What can I do? What can you do to help me?" And they are going to do much better in therapy than your people who really don't want to be there but they just come because they really have to or they don't have anything better to do. [Fugu1:243 - 245]

Ebi acknowledged that, without patient motivation, regardless of how dedicated the therapist and the team were, the patient might not have reached a successful patient outcome. In the following excerpt, Ebi implied that the patient motivation could be promoted by his or her understanding of the dedicated PT's positive impact on his or her quality of life.

> [I]t is our job as therapists to explain to the patient what we are doing, what our plans are. And the patient has to want it. They are just going through the motions because they are here in a hospital, well then you are not going to have successful patient outcome. You need to explain, and you tell the patient you will be an advocate for them, and this is what we are trying to do, and the patient should want it and be motivated for it because, if not, it is just not going to work. [Ebi1:179 - 182]

Theme 2: Patient-PT Relationship is Important for SPO

Five out of the seven experienced PTs indicated that forming a good therapeutic relationship is one of the most important factors for successful patient outcomes. Aji implies the long lasting effect of a good therapeutic relationship and its' effects on the outcome.

> I think how well you interact with the patient and the relationship you build with the patient can go a long way. One person may feel very comfortable and may do more with you if they feel comfortable with you versus another person comes in and, "Hey let's try this new thing," and "Well yesterday we did something 'NEW' and 'HURT' so I don't know if I want to do that new thing because yesterday you hurt me." [Aji1:210 - 211]

Sake made his patient become open to his recommendations by guiding his patient through a very difficult recovery period and forming a good therapeutic relationship together.

> I call it successful patient outcome because...the things that happened during her hospitalization happened where I could help kind of guide her through the very stages that were happening, and offer suggestions…how she might combat each particular stage. And gave her suggestions what she may do at home. Did family education. Did education with the patient. [I] think maybe I laid the groundwork with how I did with that soft touch kind of things. We have made her open to some of the suggestions perhaps that I was giving her. [Sake1:27 - 32]

Anago described her collaboration with her patient by inquiring the patient's needs and tailoring the program specifically for that individual.

> [I]t's understanding where the patient is coming from and what's important for them. If you are trying to get them to do stairs and they are in ranch house… they are not going to buy into what you are going to do. So you really need to talk with them and find out what's important to them to get out of here what they need to do once they leave the hospital. And focus your plan of care in that direction. [Anago1:197 - 198; 200 - 201]

Tako and her patient's mutual trust and human connection transcended the language barrier. While comparing PTs' and other health care professionals' patterns of therapeutic relationships with their patients, Tako characterized the unique therapeutic relationship opportunity that PTs possessed in their practice culture.

> So I do think that there is a unique opportunity because its, if you think about the type of relationship you have to establish for someone so that they trust you to touch them. They got to feel trust coming out of the hands, and… you cannot say a word. And I think how this woman and I got not say a word. And how you look in the eyes, how you cry with them, how you touch them. They know that they can trust you. And I think it's different. And I think it's envious for some... [Tako1:496 - 502]

Theme 3: PT is Aware of One's Own Specific Contributions to SPO

Five out of the seven experienced PTs were conscious of their own specific contributions to attaining successful patient outcomes. In her narrative of her most memorable successful case, Ika described her patient as a man, approximately 60 years old, with a long standing venous ulcer in his leg (Artifact Pt #27). The referring physician planted the idea in the patient's and his wife's mind that they would receive whirlpool care in an outpatient wound care center. Some therapists might just follow what was on the prescription, or, even with the knowledge of the ineffectiveness of whirlpool treatment for this case, they might not know any superior interventions. Ika, on the other hand, possessed not only her clinical knowledge of a more effective intervention for this case but also her determination to overcome various obstacles. Ika's confidence in her choice of intervention was evident in her voice quality in the following excerpt (Reflective memo 5/1/03).

> So what we did was instituted a program where we were going to use multilayer compression and used a topical antimicrobial but one that absorbed auto drainage because that was something draining very smelly, so pretty much took cultures but assumed that there was infection so started antimicrobials. It was an iodine-based and it slowly but surely healed, twice a week we saw this person. [Ika1:8 - 10]

There was evidence of her metacognition throughout her episode of care. Ika was fully aware of the effectiveness of her intervention as long as other barriers were monitored and controlled carefully. In order to accomplish it, Ika was proactively vigilant about the patient not taking his dressings off or not stretching them out and also managed his itch that was caused by the multilayer compression dressings.

> So we had to manage that respect, and then because it did itch, we asked the doctor to…allow him to take over-the-counter Benadryl, so in terms of management, it was kind of trying to contain all these things together and remove the barriers to this working because I had a feeling this would work for him as long as we could contain other things. [Ika1:36]

When Fugu was asked what contributed to her successful case, she first acknowledged her patient motivation and the consistency of care that she herself provided throughout the episode of care. Then she highlighted her treatment approach utilizing various soft tissue mobilizations to improve her shoulder mobility before strengthening. She stated that her approach wasn't unique in terms of technique, but it contrasted with another rehabilitation service that this patient had received prior to this episode of care, which focused on strengthening without addressing any soft tissue mobility restrictions.

> And I think what really worked well was getting in there and doing hands on work and doing soft tissue mobilization, doing passive stretching to her shoulder, and a lot of one-on-one work with her and really focusing on getting her mobility back first and then trying to strengthen it and getting more function with it. [Fugu1:60]

Tako introduced a case of an 86-year-old woman who was admitted with a gastrointestinal bleed and was unable to receive an anticoagulation for her deep vein thrombosis (DVT) due to the bleed. She then had a massive heart attack, and her central line in her groin nicked her femoral artery, which resulted in further bleeding in her thigh. In the following quote, Tako demonstrates her ability to project a precise rehabilitation potential by distinguishing a reversible from an irreversible pathology and impairment.

> And what I knew is that nothing irreversible that had happened to her from the musculoskeletal, from neurologic(al), cardiovascular, pulmonary standpoint, or from the integumentary standpoint, so I knew her rehabilitation potential was good and that with rehab she could return home and regain her prior level of function. Versus a woman who has this parasagital lesion that is cavitationist that is not going to recover and I know that…she is going to need a MAFO [molded ankle foot orthosis], so the sooner I can make her move based on her pathology to get her what she needs, the sooner she is getting where she's going. That's, that's my job. OK…that's my role to play in the management of those people, to use my ability to interpret between the two worlds. [Tako1:313 - 316]

Summary of Themes

Table 13 summarizes three themes, corresponding axial codes, and short quotations that compose the first conceptual component, experienced PTs' beliefs about facilitating factors for successful patient outcomes.

Table 13.

Experienced PTs' Themes, Corresponding Axial Codes, and Sample Quotes Related to Conceptual Component 1 (CC1)

	CC1: Experienced PTs' Beliefs About Facilitating Factors for SPO
Theme 1	Patient motivation is important ingredient for SPO Patient Psychosocial Status (AC1) "I think the biggest thing was her inner motivation" [Aji1:118] "[Motivated people] are going to do much better in therapy than your people who really don't want to be there…" [Fugu1:244] "They are just going through the motions because they are here in a hospital, well then you are not going to have successful patient outcome" [Ebi1:181]. PT's Strategies for Interacting with Patients (AC 4) & (AC1) "You need to explain, and you tell the patient you will be an advocate for them, and this is what we are trying to do, and the patient should want it and be motivated for it" [Ebi1:182] "[I]t's understanding where the patient is coming from and what's important for them" [Anago1:179]. "And, and it's that, again to get maximum output from people, that's in the honest communication"[Sake2:202].
Theme 2	Patient-PT relationship is important for SPO PT's Strategies for Interacting with Patients (AC 4) "I think how well you interact with the patient and the relationship you build with the patient can go a long way" [Aji1:210]. "We have made her open to some of the suggestions perhaps that I was giving her" [Sake1:32]. "And how you look in the eyes, how you cry with them, how you touch them. They know that they can trust you" [Tako1:499 - 500].
Theme 3	PT is aware of one's own specific contributions to SPO Clinical Knowledge & Skills (AC6) "I had a feeling this would work for him as long as we could contain other things" [Ika1:36]. "[W]hat really worked well was getting in there and doing hands on work and doing soft tissue mobilization…" [Fugu1:60] "[S]o the sooner I can make her move based on her pathology to get her what she needs, the sooner she is getting where she's going" [Tako1:314].

Note. SPO: successful patient outcomes, (AC #): Axial code number

CC2: Interfering Factors for Successful Patient Outcomes

Theme 1: Experienced Unmotivated Patients

All 7 PTs had experience with patients who were not willing to participate in PT. In a clinical context of wound care, Ika elaborated on what she meant by patient compliance. "Compliance would be definitely, if you are going to get a good outcome or a bad outcome, pretty much see it coming how much the person is willing to do what they need to do..." [Ika1:372]. Aji also described the external negative influences on patient motivation. The external sources included his or her family, caregivers, and consumer medical information.

> I think if the patient doesn't feel like they are going to get better, that is often a good indication, well no one expects me to do well, this is my diagnosis, so why should I bother or going back to some of the other things my family will care for me, so why should I bother? I haven't done it before. [Aji1:367 - 368]

In the following excerpt, Sake admitted that his clinical expertise and his interactive strategies could not optimally motivate this particular patient with multiple medical problems.

> I kind of referred to him as a failure of mine because…I really emptied my bag of tricks on this guy and couldn't get him consistently maximally motivated to perform. Actually I heard about this guy that he was going to be my patient even before his transplant, and I was ready for him, and I worked with him literally like 6 months of hospitalization; he was literally trached three different times during his hospitalization, renal failure, had a respiratory failure, all kinds of problems, anyway, I don't feel like got to him the way I get through to the vast majority of the people. I could not reach him. I still don't know why. [Sake1:265 - 268]

Similarly, Fugu shared her experience with patients who did not want to participate in physical therapy despite all her effort to engage them.

> They don't want to do anything. As much as you talk till blue in your face, you are not going to make them do anything and I think you can use certain techniques to trying convince them…I have couple of patients who it took everything out of me to get them to do anything. [Fugu2:77 - 78]

To respond to a patient's lack of motivation, Sake would attempt to learn more about the patient before seeking help. "Understanding where the patient is coming from, understanding where the patient values and goals are, all that ties into things and establishing that rapport or bond" [Sake1:309 - 310].

Theme 2: Comorbidities Complicate Patient Progress

Four out of the seven experienced PTs addressed the patient medical status as one of the most interfering factors for successful patient outcomes. In Aji's view, comorbidities would be additional obstacles to the primary condition for which the physical therapy was required. "Comorbidities absolutely rule a lot" [Aji1:266].

> For patients who have CHF or COPD who had used oxygen beforehand or…they have an amputation from a trauma in the past…if those things have been limiting them beforehand, it would most likely impact on them now, or if it may affect pain…that may impact their treatment and the outcome. [Aji1:345]

When solicited for more examples of comorbidities, Aji gave the following statement. "I am thinking about that long list of the diabetes, the PVD [peripheral vascular disease], the CHF, the amputation, the uncontrolled hypertension that mixed, always and constantly go together" [Aji1:350]. Anago also put it as: " I think this one might be where there is one we don't have much impact on. This is more like my lady at ICU, she's got so many comorbidities, you fix one and another comes up" [Anago1:482 - 483].

Ebi described her patient as a 60-year-old woman with advanced lung cancer. The patient was working full-time but she had been put on disability since her cancer diagnosis. Ebi was consulted for home safety and equipment recommendations as a part of her disposition planning. During Ebi's initial evaluation, she found that the patient was experiencing an acute lower extremity weakness that had a fair potential for recovery. She further described her response to this patient's needs and desires.

> She broke down and she was crying, and she wanted go to a rehab. And I felt that she needed to be given a chance to go to rehab, so she can go home with her husband. And they lived in a multi-level home, and her husband needed time to get her a first floor set up, and they are sending her home right down and there and discharge paperwork and everything. [Ebi1:324 - 326]

The patient was successfully transferred to a rehabilitation unit according to Ebi's recommendation; however, a sudden decline in her medical status required her to return home immediately before it was too late. Ebi perceived this as unsuccessful because of her disease process.

Theme 3: Lack of Family/Social Support Lead to Compromised Discharge and Outcomes

Four out of the seven experienced PTs discussed lack of family/social support as a source of a compromised discharge plan and outcomes. Ebi described a patient who overcame various complications and regained her physical functions through physical therapy. However her outcome was unsuccessful because her family was not ready to take her home when she became physically ready to go home. "We are getting to a point she can go home, but her family doesn’t want her. She is high[ly] functioning but sending her to a nursing home” [Ebi1:367 - 368].

> This is an unsuccessful case…she had gone to another facility in the area for a valve replacement, and it looked like the valve replacement had gone awry because she ended up with failure to wean off out of ventilator, and she ended up with incisional infection, so the plastic was following her for that, and she had kyphoscoliosis which of course worsen her pulmonary function. So she has been in a hospital, between that hospital and this hospital, for a couple of months now, and got her to the point where we were walking her on a portable ventilator, beautiful. She was like supervision. We took her off from that last week and put her on the Vapotherm... [Ebi1:374 -378]

Anago illustrated the reality of urban society contrasting to a suburban community, in terms of the socioeconomic status and the individual’s living condition.

> [W]e have a lot of people [who] don’t have homes or they are living in boarding home that they won’t take them back, they are homeless, they have a house but heat turned off, there are all sort of things going on. So just having inappropriate place to send them, so you might not run into this in suburbs where everybody has a nice place to live but here you can’t take that for granted. A lot of people won’t tell you, they make up all sort of stories, “I’m living with my son.” “I’m doing this, and I’m doing that.” And you find out that no, they came off the street. And they don’t have place to go. [Anago1:300 - 305]

Fugu stated that the need for family support might be a limited duration after discharge from the hospital.

> They are going to need some supervision…some assistance and when there is no family involved, a lot of these patients are end up in the nursing home. Because they don't have that support. People who have a little bit of family support or church support, or friends support, they are able to have much better outcome because they may only need that 3 or 4 weeks of someone helping them and then eventually they can do on their own [Fugu1:384 - 386]

In addition, Tako described how family/social support could be observed at an acute care hospital bedside and recognized as a predictor for the outcome.

> [O]ne of the best predictors of good outcome is when I walk into a room and there is a family member or there is a friend…this lady just had big old stroke and she had this Ya-Ya-sisterhood looking there and I'm thinking she is going to be fine because they are going to make sure she is fine. A woman in the next bed who was 40 years younger is going to a nursing home because she had none. [Tako1:741 - 742]

Summary of Themes

Table 14 summarizes three themes, corresponding axial codes, and short quotations that compose the second conceptual component, experienced PTs' beliefs about interfering factors for successful patient outcomes.

CC3: Conceptualization of Successful Patient Outcomes

Theme 1: Beliefs About SPO Definitely Changed

When asked to compare his or her current definition of successful patient outcome with the one at the beginning of his or her career, 6 out of the 7 experienced PTs vividly and readily described the change of their perspectives over time. For example, Ebi described a shift of her view from a tunnel vision to a much broader view of successful patient outcomes.

> [B]ack then if I had to define successful patient outcome, patient got discharged and able to walk. And I don't know if I would look into all these factors I talked about, the communication, the family support, the insurance, the case management, and I think now I look beyond just what I see in the patient, like, I look beyond it all. You know what the patient is feeling, what the family feeling and I think instead of,…I am more global, whereas before…I was just like I had tunnel vision…[S]o I definitely

Table 14.

Experienced PTs’ Themes, Corresponding Axial Codes, and Sample Quotes Related to Conceptual Component 2 (CC2)

	CC2: Experienced PTs’ Beliefs About Interfering Factors for SPO
Theme 1	Experienced unmotivated patients Patient Psychosocial Status (AC1) “[P]retty much see it coming how much the person is willing to do what they need to do...” [Ika1:372]. “I really emptied my bag of tricks on this guy and couldn’t get him consistently maximally motivated to perform” [Sake1:266]. “I have couple of patients who it took everything out of me to get them to do anything” [Fugu2:78].
Theme 2	Comorbidities complicate patient progress Patient’s Medical Status (AC2) “Comorbidities absolutely rule a lot” [Aji1:266]. “[S]he's got so many comorbidities, you fix one and another comes up” [Anago1:483]. “[A]ll of a sudden started to declining, and basically what the doctor said was she needed to go home to see her house because it was that end stage” [Ebi1:335].
Theme 3	Lack of family/social support lead to compromised discharge plan and outcome Family/Social Support (AC3) “She is highly functioning but sending her to a nursing home” [Ebi1:367 - 368]. “[W]e have a lot of people don't have homes or they are living in boarding home that they won't take them back, they are homeless, they have a house but heat turned off, you know, there are all sort of things going on”[Anago1:300] “They are going to need some supervision…some assistance and when there is no family involved, a lot of these patients are end up in the nursing home [Fugu1:384].

Note. SPO: successful patient outcomes, (AC #): Axial code number

> become more global…[I]n the first year or two everything was cut and dry, and I'm doing this, this, this, and this, but now it is just wow, there are a lot of stuff going on in order to be successful, so I think, I definitely broaden my view. [Ebi1:298 -300; 302 - 303]

Similarly, Ika described that she increased the number of domains to take into consideration with respect to the concept of successful patient outcomes.

> Initially when I first started doing wound care, success to me would be getting it [a wound] closed and getting them healed. That was…as far as I was looking, and then as I do more conferences and worked with an interdisciplinary team and different people, you realized that is not success, not really. Success goes way beyond that, and getting them to accept who they are, and getting them more prepared to go out in the world and face people, if they have deformity or go back to working or doing things that have frightened them...My definition has changed. [Ika1:185 - 188]

The least robust change was reported by Fugu, in which she was more focused on function today as compared with her definition when she was a new graduate.

> I definitely think, at least, yes. I think at this point in my career, especially when it comes to outpatients, I'm a lot more function oriented…these are the impairments then I need to figure out…how these relate to function, like OK, so they have decreased range of motion, so they have pain. What can they do functionally…I can use that as a guide to fair they are improving or not. Inpatient-wise, I think the focus is always on function, so I think that just, what I have patients do to a degree somewhat has changed. [Fugu1:271 - 274]

Theme 2: Return to Self, Self-Defined Quality of Life, is SPO

The participants' own definition of a successful patient outcome provided insight into what their intended successful patient outcomes were without specific contextual information. Unlike recalling their most memorable successful cases, participants were able to specify their own preferred domains of success and the timing of successful patient outcomes, such as upon discharge versus long-term far beyond the discharge from the acute care hospital. All 7 experienced PTs indicated that a successful patient outcome is relative to the individual with one's own values. In other words, the clinical outcome measures that are available may not apply to a more holistic view of successful patient outcomes. Ika defined a successful patient outcome in her primary clinical specialty context, wound and burn care.

> [S]uccess with my patient who is that is venous ulcer, 100% healing, and then him being able to take care of his skin, and know when there is a problem, that is success. Seeing that closed, get new skin, and not have to wear bandages anymore, that is success, or some of my burn folks, success is getting them back into their world because they have a lot of, not just wound, small part of success is getting them healed. The second big step is to make sure that they have full functioning limbs and can move and take care of [them]selves. And then the bigger part of the success is the psychological part of getting them from being a burn victim to a burn survivor and getting them back into their world and hopefully back into the workforce. And not having productive member of the society, being in an accident, and have to stay out and being on the fringes, and lose the sense of independence and who they are. [Ika1:158 - 162]

After describing her successful case and the factor sort activity for facilitating factors, Aji stated her definition of a successful patient outcome in the following excerpt.

> I think a successful patient outcome is the patient meeting their goals that they set for themselves and being happy with their level of function that they are at when they leave me. I think also just in overall positive experience not fighting tooth and nail every day and...it, actually it may even be that because often times I found that often times those patients that I do fight tooth and nail are the ones come back and say you know what? I was the real jerk but I just wanted to say thank you, so I think it may not be immediate that it seems like unsuccessful patient outcome but they got to this patient in particular, I was hoping she would be and she would be happy with what I have done and had good relationship together. That is my idea of successful patient outcome. [Aji1:79 - 82]

Sake implies the PT's role as a barrier remover for the patients to return to themselves after a significant ordeal, potentially one of life or death, that might have been endured during a hospitalization.

> I hope patients in my mind overcome the medical, surgical, things that are going on during the hospitalization, and…I help them to go home, to resume their life at home in a way where they take their initial steps back to the person where…they were before and by far I am not the last person in the chain, but I give them a chance to, to continue working into get back there. [B]eing able to go home for some of these people starting out in the intensive care unit is a significant, it's a significant deal. [Sake1:220 - 221]

Anago states that improving the quality of life of the patient does not indicate there is a set of absolute measures of quality of life, other than those of the patient. "I think the patient can really get back to doing activities that give them a good quality of life. That means their idea of what good quality of life is, and not mine. So that is the success" [Anago1:332 - 334]. Similarly, Ebi stated: "I think that the patient feels that they got their quality of life back, that is success for me" [Ebi1:87].

Theme 3: PT Experiencing Immense Challenges in Attaining SPO

Although the actual interventions and patient outcomes were not observed, the participants' descriptions of their most memorable cases illuminated their beliefs about successful patient outcomes with specific contextual information, such as the patient's medical diagnosis, motivation, family involvement, and the PT's perception of the level of success or lack of success throughout the episode of care. The strongest commonality among the successful cases that experienced PTs described was found to be the existence of significant challenges and obstacles to overcome. Five out of the seven experienced

PTs' successful cases involved the PT's own effort to overcome immense challenges to attain successful outcomes. The PTs had different roles but all demonstrated persistence in reaching successful outcomes. Some took a role of detective who called for other team member's expertise. Another took a role of barrier remover when patients build a fortress impeding recovery, and many took a role of passionate patient advocate to prevent the patient falling through cracks.

In Ika's most memorable successful case, the first obstacle of convincing the patient and his wife wasn't difficult. However, Ika admitted that it wasn't easy to convince his referring physician. She tactfully convinced him by providing research findings and guaranteeing to stop her approach if it was not effective in 2 weeks.

> The doctor, he was a bit harder to convince but I just kept hitting him with research and saying, "With this study, this and this seem to work really well…and unless you have a better idea," I kind of put it nicely then, "…Let me try this." And he said he would agree and he wrote for whatever we needed and I agreed to provide him with progress notes, measurements, and pictures. So he knows his patient is at least getting the best care and I said if nothing happens in 2 to 3 weeks, we would change and we would do whatever he wanted us to do, but let's give this a try first because we have seen this work for other people that have long standing ulcers. [Ika1:47 - 50]

Ebi stated that the PT's effort was necessary for any successful outcome. "[I] can't think of a case where people just happened upon success. People have to work at it" [Ebi1:258 - 259].

> [P]eople…build up barriers around themselves sometimes…that limit their ability, and I'd like to knock those barriers down if I can, I'd like to help show them the way…I'm sure many times, you've seen it yourself, even with patients early on in their acute hospital stay, "I can't get up," or "I can't walk," and all of a sudden, bang, two days later they are all over the place, and it's just easy for me to see that the longer the barriers in place, then the more believable they are, and so I think that things that go into

> successfully knocking down those barriers are patience, understanding, persistence, dedication, and genuine care and concern for your patients… [Sake2:57]

In her narrative of her most memorable successful case, Tako described her patient as a woman in her twenties who was an immigrant from Latin America. She had a 6-year-old son and was living in a very supportive Spanish-speaking community. She had a mono paresis from a parasagital lesion and was later diagnosed as HIV positive (Artifact Pt 12). Tako stated that it took a lot of coordination and wasn't easy, but the case was successful because the patient's own goal, to go home to take care of her son, became a realistic goal, sending her to the rehabilitation floor. It was successful also because this patient was able to receive medical assistance, a foot brace, and a medical regimen that was not affordable by her resources alone. Functionally, she was able to walk with an orthosis with or without a cane upon discharge from the acute care hospital to the inpatient rehabilitation service.

Summary of Themes

Table 15 summarizes three themes, corresponding axial codes, and short quotations that compose the third conceptual component, the experienced PTs' conceptualization of successful patient outcomes.

Table 15.

Experienced PTs' Themes, Corresponding Axial Codes, and Sample Quotes Related to the Conceptual Component 3 (CC3)

CC3: Concept of Successful Patient Outcomes

Theme 1 Beliefs about SPO definitely changed

- PT's Views of SPO (AC12)
  - "I am more global, whereas before…I was just like I had tunnel vision" [Ebi2:300].
  - "[S]uccess to me would be getting it [a wound] closed and getting them healed…Success goes way beyond that" [Ika2:185, 187].
  - "[I]'m a lot more function oriented…" [Fugu1:271]

Theme 2 Return to self, self-defined quality of life, is SPO

- PT's Views of SPO (AC 12)
  - "[G]etting them from being a burn victim to a burn survivor and getting them back into their world and hopefully back into the workforce" [Ika1:161].
  - "[A] successful patient outcome is the patient meeting their goals" [Aji1:79].
  - "I help them to go home, to resume their life at home in a way where they take their initial steps back to the person" [Sake1:220]
  - "I think the patient can really get back to doing activities that give them a good quality of life. That means their idea of what good quality of life is, and not mine" [Anago1:332 - 333].

Theme 3 PT experiencing immense challenge in attaining SPO

- PT's Views of SPO (AC 12)
  - "The doctor…was a bit harder to convince but I just kept hitting him with research and saying" [Ika1:47].
  - "[I] can't think of a case where people just happened upon success. People have to work at it" [Ebi1:258 - 259].
  - "[M]y first challenge with my first lady was, 'OK, I have to put this in a way so she understands it'" [Tako1:390].
  - "[I]t took a lot of coordination and, you know, she became suicidal, many different things happened, and the outcome was that she got where she wanted to go"[Tako1:22].

Note. SPO: successful patient outcomes, (AC #): Axial code number

CC4: Influencing Factors for Belief Formation

Various experiences were classified as professional and personal experiences. Main professional experiences included learning in the clinical context, learning through interactions with his or her colleagues, and clinical/academic teaching, whereas other experiences mentioned were academic education and continuing education courses.

Main personal experiences included care giving experience for a family member, family values, and other work and leisure experience, whereas personal illness was mentioned by only one participant.

Theme 1: Value Continuous Learning Especially Through Clinical Experience

All 7 experienced PTs stated the most influential factor for their belief formation was their learning in the clinical context. There was a limitation in what could be taught in an academic environment. Particularly in the context of wound and burn care, Ika described the necessity of learning on her own throughout her professional life.

> So if you are interested in this area [wound/burn care], you definitely have to take a lot of yourself to gain knowledge, first by textbooks, and journals, and classes, and seminars, and then every year you should be going to the yearly meetings, American Burn Association. So that you are appraised of new things coming out and stay [in] contact with vendors… and…have a lot of things in your armament, so that you are prepared to handle a lot of different situations. Or network with people who do so and then we are always working on the researching ideas of different ways of splinting, different ways of to get better outcomes, or different ways of decreas[ing] pain, and if you don't do the research I think you are doing disservice to your patients. [Ika1:227 - 229]

Ika's clinical skills and knowledge, as well as more intangible interactive strategies, were learned from practice, her direct patient responses, and observation of her coworkers.

> I think in school you learned to change your approach with certain people and certain cultures or things like that, but I think your voice inflection, and how far to push somebody, and how to motivate somebody, just come with practice, I think, and just working with other therapists and you see how they…do it and go, "That might work for me" or the way you phrase questions. And sometimes you just learn because some patients going to put you in the place if you try to approach them in a certain way. And if you back up and…go around the other way and trying to do something a little different and they respond you, then you learn that, that was maybe I should treat somebody like that or the next time I have that Hispanic male…there is a cultural thing with Spanish male who is very bravado…I don't see in women, that's such a stereotype but they have a hard time with pain. And if you can nurture them maybe a little bit more than you would have for regular old straight up person who had fractured ankle, you are going to get further because they are used to be babied more, so I think you just with experience you learn cultural differences and all. [Ika2:57 - 60]

Not only observations, but also Aji's own direct patient care experience, influenced her views and approaches toward successful patient outcomes. "Plus a number of my own experiences that kind of all pulled into one piece" [Aji2:11].

When asked what influenced her to change her view of successful patient outcomes, Fugu immediately pointed out the direct patient care experience.

> [Y]ou have a lot of experiences that fall back on what worked and what isn't working with the patient. So…someone comes down and they are…going to be wheelchair bound? Are they going to be someone who is safe to live home alone? Are they going to be someone who can do steps alone? Well, you have a lot of prior experiences to fall back on and so well, Mr. Jones, yeah, he was similar and he couldn't do it, so the chances are this person probably is not going to be able to do it. Not to say that you not to try it but you can…start getting in your mind thinking, so I think when you eval someone you have to start thinking about discharging them at the same time. And what they are going to need for safe discharge. [Fugu1:279 - 286]

Ebi denied any particular incident or event that triggered her to change her beliefs, but her experience at her current facility was the most significant influence on her beliefs.

Her experience had various aspects, such as a clinician, an administrator, or a clinical instructor. She stated her improvement in her metacognition--understanding her own limitations—to avoid a delay in seeking assistance.

> I think it was definitely a gradual change and the experience has helped …as a newer therapist, I still would have researched if I didn't know the answer, and I still do now 10 years out, if I haven't seen it in a while, I'll research it. So that I would say would be the same thing I would have done 10 years ago, but I think realizing that the problem was far deeper than PT and to seek out other disciplines, I might not have done it as a newer therapist, realizing that maybe I didn't have enough clout to go to somebody in another profession but here just recognize that it's beyond me, and somebody else need to be involved. Back then I might have not done that... [Ebi2:216 - 219]

Theme 2: Value Sharing Skills, Knowledge, and Beliefs with Others

Three out of the seven experienced PTs expressed their appreciation for being able to share their skills, knowledge, and beliefs with others. Ebi explained how her whole department promotes learning through an open collegial relationship to each other. Her perception was shared by newly hired experienced staff members and the physical therapy interns at her current facility.

> As a whole, we are very unique staff compared to any other place I worked at. And when the therapist come in that transferred from other job, they can't believe. And even students remark about how dynamic and how willing in the art of learn and teach and things here. So I think the whole department is unique, and that's why I haven't left in 10 years. [Ebi2:51 - 54]

Sake described his encounter with another professional who taught him what it meant to be a good clinician and a professional. Genuine caring and concern for other human beings was what he learned and passed on to new staff and students who would be willing to listen.

> I think that seeing people who repeatedly come into the hospital and finding out how well they did on the first admission, what didn't go as well, getting to know patients and patient's family members and kind of becoming part of their extended family in some situations, and reinforcing the idea that we are not treating "a patient" per se, you are treating with gentle kindness someone who maybe a part of your family. And that's also the idea passed on to students, you are not transferring a patient, you are transferring your grandma. You should take care of her. [Sake2:33 - 35]

Being a clinical instructor and teaching students seemed to activate Ebi's metacognition—understanding herself better through mutual teaching and learning.

> [I]t makes you realize that you know more than you think you know just talking with students [smiles]. But these are going to be your future clinicians, so I'm going to give them everything I can while they are here with me, because they are going to be my peer, and it also they bring the table a lot of knowledge, too, that being out for 10 years things have changed, programs have changed, and courses are different now, so it's kind of nice to see a new perspective and what's going on and what are they teaching now in schools and programs, especially now the DPT with the other different kind of programs that we didn't have access to when we graduated. But so it's…a nice kind of relationship, they are teaching us as well as we are getting them all the knowledge we've gained, clinical knowledge, not just the book knowledge. [Ebi2:167 - 169]

During the discussion of her continuing education course experience, Anago expressed her value of clinicians teaching from their experience in conjunction with the research findings, rather than professional lecturers who do not possess clinical work experience with patients on the daily basis.

> [I] like to learn from the clinicians…because [that facility] tends to be one of the trend setters for the country and just going down and seeing how they do it. They have a very unorthodox approach that, and just much more aggressive and risk taking, and forward thinking than what I think,

> the most regular hospitals I used to, and take all the patients that are on the vent[ilator] and put them in prone and just position around the tubings, it's OK, and we came back and we tried, and a nurse walked into the ICU and…there was another cardiac course…Managing Cardiopulmonary Dysfunction at [a facility name]…we just walked into this course and the instructors were who's who of Cardiopulmonary Section of the APTA [American Physical Therapy Association] teaching this course, and it was just wonderful, they really sat down and shared everything they had. [Anago2:246 - 248]

Theme 3: Family Member's Illness as a Reminder for Patient's Own Values

All 7 experienced PTs had relevant experience in which they learned something from a family member's illness. Both Aji and Tako learned the importance of understanding the patient's needs and wants, although those wishes might not align completely with clinical outcome expectations. In the following excerpts, Aji stated that her grandfather didn't want to exercise at home after a very successful rehabilitation.

> He frustrated me knowing that, at the rehab center, he had done this and that other things, and when he left, because…still he wasn't independent, but he was a lot better that when he got to the facility that he went to, his activity of choice was sitting and watching the baseball games. That frustrated the Jesus out of me [laughs]. Because I knew what he could do and I encouraged him to do that, and he got angry at me or whatever. [Aji2:193 - 195]

Aji continued: "[I] think that made me more aware of what the patient wants to do and how they want to live their lives is really what matters most, not so much the family that say, 'Well, he needs to walk.'" [Aji2:200]

Tako was aware that her aunt was steadily losing her independence due to multiple medical complications following a routine orthopedic surgery. With her full awareness of the clinical benefits of breathing treatment, Tako experienced the more holistic values in listening to her aunt's desire and cherishing a moment together. She contrasted her values against the clinical values of her other family members during the care of her aunt.

> You noticed my sister is a nurse and my mom is a nurse, and they would always be like, rush, rush, rush, get this done, get this done, get this done. [My aunt] wouldn't do the breathing treatment because she hated it. So I said, "It's OK…Put your mask on and we'll do the puzzle," I would ask the question and fill it out. And,...it didn't cost me anything, but she was so appreciative of... she just died...I miss her. She taught me a lot. She struggled so to be happy. [Tako2:402 - 408]

When one of her family members was hospitalized, Fugu gained a different insight into being a health care consumer and appreciated a patient's need for a strong advocate.

> I've had a lot of involvement with different hospital, the insurance dealings from the family perspective, and not just from the PT perspective. And you really see how really crazy it is. And it forces you to realize what a patient advocate you need to be, for your family and, what people go through. So you kind of get to see both sides of it. [Fugu2:386 - 389]

Anago recalled how her mother remembered a small negative experience over a mostly positive experience during her hospitalization for her elective knee surgery.

> She could really go on and on about…just a couple of negatives that weren't any long term thing, just, I had negative experience here for one hour, and I had negative experience here for about one hour, but she didn't forget about those at all. [Anago2:433]
>
> Overall, she was very happy with the experience, the outcome… she always has to include that "but," there was this and this she didn't like. And they make an impression, all those little things really do go into it. So you got to watch just about every word…everything, how long a patient sit and wait for the transporter to take them back to their room. [Anago2:437 - 439]

Theme 4: Family Upbringing Influencing PTs' Beliefs

Three out of the 7 experienced PTs discussed their family upbringing as a part of the influence in their beliefs about successful patient outcomes. In order to be an advocate for her patients, Aji would need to speak up. Her ability and willingness to speak up for her vulnerable patients could be influenced by her upbringing as the youngest in the family.

> I'm the youngest. Nobody listened to me because I was the youngest, so I had to have a big mouth to have my help, so heard a good number of times, so I learned to speak up when I needed to speak up which I think reflects to being a patient's advocate because you need to be able to have the big mouth to say, "No, that's not right." You got to listen to what I'm saying. [I] understand what you are saying, but you got to listen to and understand what I'm saying too. So I think that influenced me. [Aji2:214 - 218]

By soliciting an account of her personal experiences, Ika provided the potential connections between her valuing flexibility in her professional life and her upbringing as the youngest of five and her parental attitudes.

> [A]bsolutely because I'm the last of five. I think that's why I can be so flexible because I never really had the choice, like, wherever everybody else went, that's where I went because as the youngest what voice did I have any of that, so [laugh], I can be really flexible, and be like go with the flow kind of person, and I think, that's a lot because my parents are very much like that, definitely don't cry over spilled milk, and if one way doesn't work another will, that's just their attitude, and I think I got a lot of that which is great because I don't get too upset if things don't go right, improvising a lot of fun, and in my previous life, I also did a lot of theater work, which if it didn't work, improvise. [Ika2:68 - 69]

Tako's sensitivity to indignity was heightened by her own experience of being discriminated against for her Catholic faith as she grew up. She also observed various forms of health care professional's prejudices against their patients. In the following excerpt, she referred to her aunt's experience as a patient.

> And the body fell apart and the mind was as sharp as a tack. And there is a lot of indignities that she suffered that I am very sensitive to. And I think that's maybe one of the biggest lesson that the lack of control and the indignities and I just really want to shake my fists at that. And try really hard not to have people suffer those. And I think I do pretty good job with that, I think. [Tako2: 413 - 417]

Other Experience. Among other personal experiences reported, Sake stated that his practice of Aikido influenced his beliefs, particularly with respect to nonphysical confrontational interactions between individuals during his PT practice.

> [A]ll the ideas about blending that redirect one's energy in the martial arts sense, you redirect attacker's energy in a way that subdues them but doesn't necessarily do the permanent damage to them…That may translate into a non-martial arts sense with somebody who is confronting you or being aggressive towards you, and you try to redirect their energy in a way that both people come out OK. And those kinds of ideas and philosophies have influenced me, not only at work but in my life for the last 2½ years. [Sake2:142 - 144]

Summary of Themes

Table 16 summarizes four themes, corresponding axial codes, and short quotations that compose the fourth conceptual component, the influencing factors for experienced PTs' beliefs about successful patient outcomes.

Table 16.

Experienced PTs' Themes, Corresponding Axial Codes, and Sample Quotes Related to the Conceptual Component 4 (CC4)

	CC4: Factors Influencing Experienced PTs' Beliefs
Theme 1	Value continuous learning, especially through clinical experience Learning in clinical context (AC 13) PT's continuing own learning (AC 14) PT's clinical skills and knowledge (AC 6) "[Y]ou definitely have to take a lot of yourself to gain knowledge, first by textbooks, and journals, and classes, and seminars, and then every year you should be going to the yearly meetings…" [Ika1:227] "[Y]ou have a lot of experiences that fall back on what worked and what isn't working with the patient" [Fugu1:279].
Theme 2	Value sharing skills, knowledge, and values with others Learning in clinical context (AC 13) "And even students remark about how dynamic and how willing in the art of learn and teach" [Ebi2:53]. "And that's also the idea passed on to students, you are not transferring a patient, you are transferring your grandma. You should take care of her" [Sake2:34 - 45]. "[I]t's…a nice kind of relationship, they are teaching us as well as we are getting them all the knowledge we've gained, clinical knowledge, not just the book knowledge" [Ebi2:169]. "[I] like to learn from the clinicians… it was just wonderful, they really sat down and shared everything they had" [Anago2:246, 248].
Theme 3	Family member's illness as a reminder for patient's own values Personal experience (AC 17) PT's view of SPO (AC 12) "[I] think that made me more aware of what the patient wants to do and how they want to live their lives is really what matters most, not so much the family that say, "Well, he needs to walk" [Aji2:200]. "[My aunt] wouldn't do the breathing treatment because she hated it. So I said, "It's OK…Put your mask on and we'll do the puzzle" [Tako2:403 - 404]. "And it forces you to realize what a patient advocate you need to be, for your family and, what people go through" [Fugu2:388].

Table 16. (Continued)

Theme 4	Family upbringing influencing PTs' beliefs Personal experience (AC 17) "I learned to speak up when I needed to speak up which I think reflects to being a patient's advocate because you need to be able to have the big mouth to say, 'No, that's not right'" [Aji2:215]. "I think that's why I can be so flexible because I never really had the choice, like, wherever everybody else went" [Ika2:69]. "[T]here is a lot of indignities that she suffered that I am very sensitive to" [Tako2:414]

Note. SPO: successful patient outcomes, (AC #): Axial code number

Summary of the Findings from Experienced PTs' Beliefs

Figure 6 depicts a revised conceptual framework of PTs' beliefs about successful patient outcomes and main factors that influenced PTs beliefs based on the findings of the experienced PTs. The conceptual boxes bordered with bold lines indicate four conceptual components of beliefs about successful patient outcomes. The differences between the initial conceptual framework based on the literature review (see Figure 2) and the revision (see Figure 6) indicates the discovery from the experienced PTs data set beyond the currently available knowledge about successful patient outcomes.

The experienced PTs' beliefs about facilitating factors for successful patient outcomes were patient motivation, patient-PT relationship, and PT's clinical knowledge and skills. All of these findings were consistent with the literature, except for the PT's skills and knowledge. Other facilitating factors based on the current literature, such as therapeutic touch and procedural interventions, were not discussed by the participants.

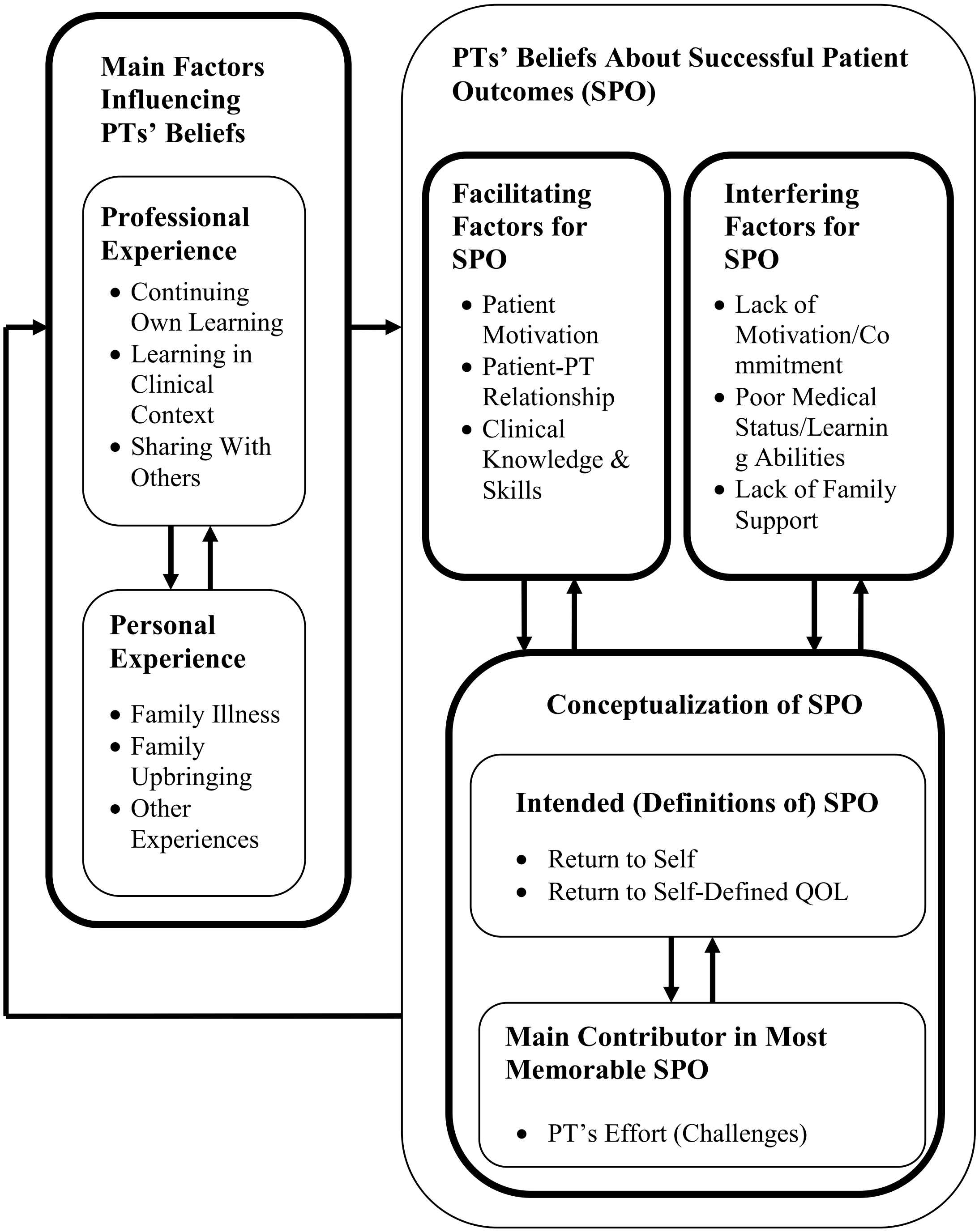
Main Factors Influencing PTs' Beliefs
Professional Experience
• Continuing Own Learning
• Learning in Clinical Context
• Sharing With Others
Personal Experience
• Family Illness
• Family Upbringing
• Other Experiences
PTs' Beliefs About Successful Patient Outcomes (SPO)
Facilitating Factors for SPO
• Patient Motivation
• Patient-PT Relationship
• Clinical Knowledge & Skills
Interfering Factors for SPO
• Lack of Motivation/Commitment
• Poor Medical Status/Learning Abilities
• Lack of Family Support
Conceptualization of SPO
Intended (Definitions of) SPO
• Return to Self
• Return to Self-Defined QOL
Main Contributor in Most Memorable SPO
• PT's Effort (Challenges)

Figure 6. Experienced PTs' Beliefs About Successful Patient Outcomes & Main Factors Influencing PTs' Beliefs: Revised Conceptual Framework

The experienced PTs' beliefs about interfering factors for successful patient outcomes were a lack of motivation/commitment, poor medical status/learning abilities, and lack of family support. The experienced PTs in this study did not mention facility-related interfering factors, such as time shortage and staffing issues. This might be related to the characteristics of the facility where the participants practice—being a teaching hospital, rather than a for-profit organization.

By asking the experienced PTs whether their definitions of successful patient outcomes have changed over time, the potential for plasticity of beliefs was discovered. All experienced PTs responded that their beliefs had definitely changed over the course of their career. The experienced PTs' views of successful patient outcomes are focused around the patients' own goals to return to themselves, their own definitions of quality of life, and, as a consequence, attaining patient satisfaction. Their focus seemed primarily at the disability level along the disablement models (pathology → impairment → functional limitations → disability) presented as the Nagi scheme, and another (pathology → impairment → functional limitations → disability → societal limitations) as the National Center for Medical Rehabilitation Classification (American Physical Therapy Association, 2001).

The experienced PTs' descriptions of their most memorable patient cases revealed their beliefs about the main contributors for the most successful patient outcome. The most common characteristic of the most memorable case description was the existence of the PT's own effort in achieving successful patient outcomes. In other words, the experienced PTs perceived attaining a successful patient outcome as rather challenging and requiring their skills, knowledge, or dedication.

Main factors that influenced the experienced PTs' beliefs came from both professional and personal experiences. Unlike the novice PTs, their clinical internship experience was not one of the main influences. The experienced PTs perceived that their learning during their own clinical internship was too far remote to be considered as most influential. The experienced PTs valued continuing their own learning, especially learning in the clinical context, including working with patients and discussing with colleagues, to be most influential in forming their beliefs. The experienced PTs valued sharing skills, knowledge, and values with others including colleagues and PT students, who are going to be future colleagues. The participants did not mention research or specialization as their source of influence in their belief formation. Among various personal experiences, the PT's own family members' illness and family upbringing appeared to be most influential for their belief formation.

Comparative Analyses Between Novice and Experienced PTs

Based on both novice and experienced PTs' composite narratives presented above, the comparative analyses between two groups of participants were performed. The comparison of themes was made for each conceptual component as follows.

CC1: Facilitating Factors for Successful Patient Outcomes

Table 17 describes the comparison of themes related to PTs' beliefs about facilitating factors for successful patient outcomes between novice and experienced PTs.

Table 17.

Theme Comparison Between Novice and Experienced PTs: Conceptual Component 1 (CC1), PTs' Beliefs About Facilitating Factors for SPO

Common Axial Codes	Novice PTs' Themes	Experienced PTs' Themes
Patient psychosocial status (AC1)	Patient motivation is important ingredient for SPO	Patient motivation is important ingredient for SPO
Family/social support (AC3)	Patient family as a source of information Physical & psychological support during and after discharge	Patient family can be a good predictor for SPO*; also negatively influence SPO*
Patient's medical status/learning abilities (AC 2)	The better the patient medical status the better the outcome	Not mentioned
PT's strategies for interacting with patients (AC 4)	Not mentioned	Patient-PT relationship is important for SPO
Clinical knowledge & skills (AC6)	Not mentioned	PT is aware of one's own specific contributions in SPO

Note. SPO: successful patient outcome, (AC #): axial code and its number in ( ), *Not identified as a theme

Both novice and experienced PTs believe that patient motivation is an important ingredient for successful patient outcomes. However, the experienced PTs stated various interactive strategies to promote patient motivation, such as persistence, flexibility, honest communication, and use of humor; whereas the novice PTs weren't explicit about their strategies to promote motivation, except for the use of reward and use of humor for pediatric patients.

Novice PTs believed that the patient family can be both a source of information as well as a multifaceted support for the patient during and after discharge from the hospital. Similar themes did not emerge from experienced PTs data; however, the discussion of family support was not absent. The existence of family/social support was viewed as a predictor for positive outcomes as well as negative influence on patient's outcome, such as an overprotective family allowing a patient to claim no need for rehabilitation. Novice PTs indicated that there are positive relationships between the patient's medical status and his or her outcomes. The patient's learning ability was believed to be an important factor for successful outcomes. Experienced PTs did not mention this issue as a main facilitating factor for successful patient outcomes.

Experienced PTs discussed the patient-PT relationship as one of the important factor for successful patient outcomes, while novice PTs did not. It relates to the first theme, PT promoting patient motivation. The responsibility to make the therapeutic encounter as effective as possible appeared to be shared by both the PT and the patient, rather than, placing the entire responsibility on the patient.

The last theme, PT's awareness of one's own specific contributions in successful patient outcomes, was unique to experienced PTs. Experienced PTs explicitly described what specific interventions for what specific situation would work and how. This explicitness indicated their understanding of their own skills and knowledge as well as limitations of them.

CC2: Interfering Factors for Successful Patient Outcomes

Table 18 describes the comparison of themes related to PTs' beliefs about interfering factors for successful patient outcomes between novice and experienced PTs. Both novice and experienced PTs discuss their experience with patients who were not motivated. However, patient motivation was viewed differently in the two groups. Novice PTs emphasized the patient's responsibility to engage in their care; thus unmotivated patients were viewed as simultaneously lacking their responsibility in improving their progress. Through the encounter with unmotivated patients, experienced PTs developed various interactive strategies to improve patient motivation. Both novice and experienced PTs discussed how a patient's comorbidities complicate his or her progress. Novice PTs mentioned that a patient's learning ability is crucial for PT intervention and outcomes. Experienced PTs did not discuss a patient's learning ability as a main interfering factor.

Among experienced PTs, a lack of family/social support emerged as a main interfering factor for successful patient outcomes, while two novice PTs discussed similarly. A lack of family/social support was believed to compromise the discharge plan. For example, one could go home if someone could assist, but without family or friends, one might be sent to a nursing home. A nursing home was viewed as an

Table 18.

Theme Comparison Between Novice and Experienced PTs: Conceptual Component 2 (CC2), PTs' Beliefs About Interfering Factors for SPO

Common Axial Code	Novice PTs' Themes	Experienced PTs' Themes
Patient's psychosocial status (AC1)	Experienced unmotivated patients Emphasize patient's responsibility to get better	Experienced unmotivated patients
Poor patient medical status/learning abilities (AC 2)	Comorbidities complicate patient progress Lack of patient's learning ability limits SPO	Comorbidities complicate patient progress
Lack of patient family support (AC3)	*	Lack of family/social support lead to compromised discharge plan (nursing home instead of home) and outcomes
Lack of health care access (Reimbursement problems) (AC 11)	Lack of health care access compromising patient rehabilitation potential	*

Note. SPO: successful patient outcome, (AC #): axial code and its number in ( )
*2 participants mentioned

undesirable disposition as opposed to going home with family. However, one exception was when the family was abusive to the patient.

A lack of health care access compromising patient rehabilitation potential emerged as a theme for novice PTs beliefs about interfering factors, while 2 experienced PTs discussed this as well. Novice PTs described their frustration and dilemma of knowing the benefit of PT service or use of equipment and inability to change the patient's health insurance status. Similar frustrations were discussed among experienced PTs, but health care access did not emerge as a theme among experienced PTs.

CC3: Concept of Successful Patient Outcomes

Table 19 describes the comparison of themes related to PTs' beliefs about successful patient outcomes between novice and experienced PTs. In terms of plasticity of beliefs about successful patient outcomes, novice PTs had variability; whereas experienced PTs had definite change of their beliefs about successful patient outcomes. Three out of the six novice PTs did not change, two were in progress, and one PT had changed her beliefs about successful patient outcomes.

Among novice PTs, the change of beliefs was associated with incorporating more of the patient's report to clinical findings, or adjusting their ideal outcomes and the clinical realities that they encounter everyday. Experienced PTs were more explicit about how their beliefs changed over time. For example, their views about successful outcomes became broader than functional status alone, and more domains of success were discussed.

Novice PTs conceptualized successful patient outcomes as the patient's independence through functional improvement or rehabilitation placement from an acute care setting. As stated previously, the experienced PTs' successful outcomes were broader in scope than functional improvement, such as the patient's return to self, attaining self-defined quality of life. In addition, patient satisfaction was believed to be a part of the successful outcome by two novice PTs. It did not emerge as a theme for

Table 19.

Theme Comparison Between Novice and Experienced PTs: Conceptual Component 3 (CC3), Conceptualization of SPO

Common Axial Code	Novice PTs' Themes	Experienced PTs' Themes
Intended SPO		
Views of SPO (AC 12)	Variability in plasticity of beliefs about SPO [has not changed (3), change in progress (2), changed (1)]	Beliefs about SPO definitely changed
	Independence through functional improvement	Return to self, self-defined quality of life, is SPO
	Rehab placement from acute care setting	Not discussed
	Patient satisfaction*	**
Most Memorable Patient Cases with SPO		
PTs' psychosocial status (AC 7)	Not mentioned	PT experiencing immense challenge in attaining SPO
Patient's psychosocial status (AC1)	High patient motivation contributed to most memorable SPO	*

Note. SPO: successful patient outcome, AC ( ): axial code and its number in ( ), * 2 participants discussed, **as a consequence of return to self

experienced PTs; however, it was viewed as a consequence of returning to self.

Describing their most memorable successful patient outcomes, novice PTs had high patient motivation as a main contributor, whereas experienced PTs described their experience of immense challenges in attaining successful patient outcomes. It is consistent with the last theme emerged for facilitating factors: the PT is aware of one's own specific contributions in successful patient outcomes.

CC4: Influencing Factors for PTs' Belief Formation

Table 20 describes the comparison of themes related to factors that influence PTs' beliefs about successful patient outcomes between novice and experienced PTs.

Novice PTs indicated that their both positive and negative clinical internship experiences influenced their beliefs about successful patient outcomes, while experienced PTs did not discuss their clinical education. All novice PTs had their clinical internship listed on their resume, whereas none of the experienced PTs did. Because the participant's resume was used during the second interview, it might have facilitated the recency effect.

Experienced PTs valued continuous learning, especially through clinical experience. Direct patient care and observing patients as well as staff were valued as much as attending continuing education courses and going to conferences to network with PTs outside the facility. Similarly, novice PTs considered clinical experience, even for a year or two, as a primary source of learning about successful patient outcomes. The novice PTs expressed their learning far beyond what they could have learned during their academic education.

Both novice and experienced PTs valued learning through colleagues. The differences were related to their experience level. Experienced PTs valued sharing their skills, knowledge, and values with staff and students, while novice PTs focused on their learning through colleagues more so than offering advice.

Table 20.

Theme Comparison Between Novice and Experienced PTs: Conceptual Component 4 (CC4), Main Factors Influencing PTs' Beliefs About SPO

Common Axial Code	Novice PTs' Themes	Experienced PTs' Themes
Professional Experience		
Academic education (AC 15)	Both positive and negative clinical internship experience influencing current beliefs	Not discussed
PT's continuing own learning (AC 14)	Not discussed	Value continuous learning, especially through clinical experience
Learning in clinical context (AC 13)	Clinical experience as a primary source of learning about SPO	
	Value learning through colleagues*	Value sharing skills, knowledge, and values with others
Personal experience		
Family illness (AC 16)	Family illness changing perspectives about illness and the role of PT	Family member's illness as a reminder for patient's own values
Other personal experience (AC 17)	Family values influencing on PTs' beliefs	Family upbringing influencing PTs' beliefs
	Applying principles of other work experience to PT practice	*

Note. SPO: successful patient outcome, AC ( ): axial code and its number in ( ), * 2 participants discussed

Both groups believed that their family member's illness influenced their beliefs about successful patient outcomes. Novice PTs indicated that their perspectives about a particular illness or what PT can do for similar patients were influenced. Experienced

PTs portrayed their family member’s illness as a reminder for them to search for their patients’ own values and take them into consideration for PT practice.

Finally, the novice PTs discussed their application of principles that were learned in other work experience into their PT practice. Experienced PTs did not mention other work; however, two participants indicated their other personal experiences, such as the philosophy of martial arts.

Chapter Summary

In this study, 13 physical therapists from a large urban acute care teaching hospital were interviewed about their beliefs about successful patient outcomes. A qualitative research method with a grounded theory approach was utilized to answer three specific research questions and to begin formulating a theory of PTs’ beliefs about successful patient outcomes. Tables 3 through 6 present participants’ demographic data. Table 7 summarizes 17 axial code categories, their definitions, and corresponding open codes. Table 8 presents the interviewee summary headings in the order of appearance and data sources contributed to each content.

Then, the composite narrative of novice PTs and experienced PTs were provided by organizing them into four conceptual components: 1) facilitating factors, 2) interfering factors, 3) conceptualization of successful patient outcomes, and 4) influencing factors for PTs’ belief formation. At the end of each conceptual component narrative, a summary of themes was provided (Tables 9 through 12; 13 through 16). Then at the end of each group’s narrative, a revised conceptual framework was drawn (Figure 5 & 6)

Specific research question 1 was answered and the results are summarized as follows. The main facilitating factors for successful patient outcomes addressed by the novice PTs were found to be patient motivation, patient's medical status/learning abilities, and family support, whereas the experienced PTs addressed patient motivation, PT-patient relationship, and the PT's clinical skills and knowledge.

Specific research question 2 was answered and the results are summarized as follows. The main interfering factors with successful patient outcomes discussed by the novice PTs were a lack of patient motivation, poor medical status/learning abilities, and a lack of access to health care, whereas experienced PTs discussed a lack of patient motivation, poor medical status/learning abilities, and a lack of family support.

Specific research question 3 was answered. The main influencing factor for forming their beliefs about successful outcomes was their learning in the clinical context for all participants. Finally, through comparative analyses of themes that emerged from novice and experienced PTs data, similarities and differences were described (see Tables 17 through 20).

Bartlett and Palisano (2002) indicated that through learning PTs' perception of factors influencing the acquisition of motor abilities of children with cerebral palsy, PTs' implicit knowledge could be explicated and become a useful source for research and clinical decision making. Findings from this study have a similar potential for understanding the PTs' knowledge that were integrated through professional and personal experiences and underlying beliefs.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the nature of PTs' beliefs about successful patient outcomes. The aim was not only to describe but also to begin formulating a theory of PTs' beliefs about successful patient outcomes. The previous chapter described the answers to three specific research questions: 1) what were PTs' beliefs about factors that facilitate successful patient outcomes; 2) what were PTs' beliefs about factors that interfere with successful patient outcomes; and 3) what factors influenced the formation of PTs' beliefs. In addition, for each question, the differences and similarities between novice and experienced PTs were identified. This exploratory qualitative research provided the descriptive data to begin formulating a theory and hypotheses that can be tested in future research.

This chapter begins by discussing the nature of PTs' beliefs examined in this study closely following the revised conceptual framework for novice and experienced PTs (Figures 5 & 6, respectively). PTs' beliefs about factors that influence patient outcomes are discussed first, which is followed by influential factors for PTs' belief formation. Each factor or cluster of factors is discussed with relevant literature that either supports or contradicts each specific finding. Then, limitations of this study are presented.

Future research directions begin with a continuation of hypothesis building and secondary analysis of this study data. Post hoc analysis of this study data focusing on the plasticity of PTs' beliefs is described. This additional interpretation of the data is the beginning of a theory of PTs' beliefs about successful patient outcomes. For each hypothesis, a specific hypothesis testing strategy is presented.

PTs' Beliefs About Factors Influencing Successful Patient Outcomes

As shown in the revised conceptual frameworks for both novice PTs (Figure 5) and experienced PTs (Figure 6), the PTs' beliefs are represented in the boxes on the right side, which are influenced by professional and personal experiences drawn in the boxes on the left side. Factors that the participants in this study identified as either facilitating or interfering with successful patient outcomes were discussed here under subheadings of patient motivation, patient medical status, family/social support, health care access, patient-PT relationship, and PTs' clinical skills and knowledge. In addition, I will explain why some of the factors identified through literature review (Figure 2) were not robustly present in my study. The parenthesis, such as (CC1-N1 & E1), indicates the conceptual component number 1 and the theme number 1 from novice and experienced PTs, which corresponds with the descriptions in the previous chapter.

Patient Motivation

The fact that patient motivation was an important ingredient for successful patient outcomes (CC1-N1 & E1) and a lack of it was an interfering factor (CC2-N1 & E1) was not surprising and was consistent with the literature, such as the survey of PT clinicians conducted by Stenmar and Nordholm (1994) in Sweden, as well as the double-blind experimental study conducted by Friedrich et al. (1998) on the effect of a motivational program on short term disability.

In my study, both novice and experienced PTs described their experience with patients who were not motivated (CC2-N1 & E1). Interestingly, a difference between novice and experienced PTs was how much responsibility PTs placed on the patient with respect to the level of motivation. The novice PTs emphasized the patient's responsibility to get better (CC2-N2), possibly due to the underlying belief that the patient's motivation was unchangeable, whereas the experienced PTs emphasized building a good patient-PT relationship to facilitate successful patient outcomes (CC1-E2) with which patient motivation can be promoted. As a support for this speculation, experienced PTs described more diverse interactive strategies as compared to novice PTs, such as being flexible or determining the right approach by trial and error with patients who were not motivated. For example, Ika stated: "[Y]ou have to be pretty flexible and kind of dealing with different people and groups and their family and schedules and everything…and if they really can't do something one day, you can't be a hard ass all the time" [Ika1:126]. Sake described his patient in the intensive care unit: "I tried soft approach with him and it didn't work. I tried the hard approach and literally yelled at this guy…every day and he came around and he tried his best of his ability" [Sake1:151 - 152].

In an attempt to hypothesize why novice PTs in this study emphasized the patient's own responsibility more so than experienced PTs, it can be speculated that the importance of making patients responsible for their own care was emphasized in recent educational preparation, which is based on the research evidence, such as that put forth by Friedrich, et al. (1998), although the authors did not place the entire responsibility on the patient. The reason why novice PTs emphasized the patient's responsibility in his or her own care can also be explained by one of the findings in Thomson's (2000) qualitative research conducted in the United Kingdom, exploring what "problem" patients were and how senior PTs coped with them. She stated that when both the patient and the PT failed to negotiate their mutual ground to work as a team, some PTs might label their patients as "problem" patients in order for the PTs to cope with their own helplessness and inability to be effective in the episode of care. However, the idea that collaboration between the patient and the PT is essential for physical therapy outcomes is not new. Jensen et al. (2002) presented the patient-practitioner collaborative model to explain how the patient's receptivity to change can be promoted through understanding the patient and building mutual ground, whereas negotiation between the PT and the patient can facilitate the patient's attainment of his or her individual goals.

When PTs were repeatedly exposed to patients who did not value the PT service and were unenthusiastic about the PTs' recommendations, there were risks for PTs to begin formulating beliefs imbedded with stereotypes and biases. Participants in this study described a decreased motivation level found among specific patient groups, such as jail inmates, young patients with violent trauma such as gun shot wounds, males with Hispanic ethnicity, and patients under worker's compensation. Participants in this study also identified other factors related to poor motivation, such as depression, poor family support, and poor finances that were not easily modifiable. However, literature specifically examining the PTs' perceptions about the patient's characteristics and motivation level was not found.

Patient Medical Status and Learning Abilities

Novice PTs addressed that uncomplicated and less severe patient medical status, and particularly the patient's learning ability, is crucial for successful patient outcomes (CC1-N4). By identifying the patient's learning ability as a facilitating factor, it is possible that novice PTs' perceived their primary roles as teachers, or information providers, rather than as technical skill providers or diagnosticians.

Both novice and experienced PTs believed that comorbidities complicated patient progress (CC2-N2 & E2). One novice PT (Ikura) and one experienced PT (Ebi) described that their unsuccessful patient outcome cases were due to the death of the patient. Due to the acuity of the patients' medical status, PTs in an acute care setting could encounter more patient deaths than those who practice at an outpatient orthopedic practice. In a biomedical culture, physicians, surgeons, and nurses could view death to be the ultimate symbol of failure; however, whether the 11 other participants in rehabilitation services considered the patient's death as an unsuccessful outcome or not was not known from the results of this study.

Further data collection from the outpatient practice would be required to determine if the patient's medical status and learning abilities were facility dependent factors. To my knowledge, relevant literature was not found with respect to the relationship between patient medical status and physical therapy outcomes.

Patient Family and Social Support

The patient's family and social support as a facilitating factor for successful patient outcomes was not surprising. In my study, novice PTs considered the patient's family as a source of information (CC1-N2) as well as physical and psychological support during and after discharge (CC1-N3), whereas experienced PTs believed a lack of family and social support lead to compromised discharge plans and outcomes (CC2-E3). With the underlying beliefs that nursing homes were not the optimum disposition, a lack of family was implicated in compromising the outcomes, particularly for patients who were not functionally independent at the time of discharge from the hospital. Only the experienced PTs addressed the potential negative effects of the patient's family on the patient outcomes, such as being abusive or being overprotective of the patient. For example, Aji described how her patient declined PT service by saying, "[W]ell no one expects me to do well…my family will care for me so why should I bother?" [Aji1:367].

Although not identified as themes in this study, there were some elements of surprise expressed by the participants about their patients' families. For instance, a sibling of a patient did not know how many other siblings the patient had or how old the patient was. Cultural beliefs with respect to the family's responsibility for caring for the patient as well as the patient's expectation of the family's role need to be explored. This factor might be a facility and/or patient dependent factor. Further studies of different facility types will be beneficial. In addition, further review of the relevant literature that examines the relationship between the level of family support and the physical therapy outcomes will be beneficial.

Health Care Access

Novice PTs believed that a lack of health care access compromised patient rehabilitation potential (CC2-N4). Novice PTs expressed their frustration, helplessness, and desire to gain more information about health insurance issues in order to be resourceful with potential alternative services or approaches, despite the limited reimbursement for PT services or equipment needs. For example, they wanted to learn about patient eligibility and application methods for an electric wheelchair or special transportation programs for families with lower income. Experienced PTs appeared to believe that there were some strategies, such as extending the inpatient care or increasing the intensity and duration of PT sessions, when the patient was found to be lacking access to follow-up care or acute inpatient rehabilitation programs. Further review of the literature directly examining the patient's health care accessibility and the physical therapy outcomes would be beneficial, however it is beyond the scope of this study.

Patient-PT Relationship

Experienced PTs addressed that the patient-PT relationship is important for successful patient outcomes (CC1-E2). They were conscious of their roles in optimizing their relationship with their patients, because they believed that forming a good relationship was important. This was consistent with the following literature. In Stenmar and Nordholm's (1994) survey of Swedish PTs, the participants perceived that the patient-PT relationship is more important for physical therapy to work than the PTs' techniques and knowledge. In addition, Mostrom and Shepard (1999) addressed the benefit of forming a good therapeutic alliance between the patient and the PT in the context of patient education. Then an interesting unanswered question would be: How did the experienced PTs in my study believe it promoted patient outcomes?

Promoting Patient Motivation

Experienced PTs perceived a good patient-PT relationship promoted patient motivation, or at least encouraged the patient to listen to the PT's recommendations. One explanation for how a good patient-PT relationship may improve patient motivation is based on Jensen et al.'s (2002) collaborative model, which was discussed earlier in the patient motivation section. In my study, one experienced PT mentioned that PTs must appear knowledgeable as well as confident: "[C]ome across with your confidence, certainty, and assurance, that's probably half the battle right there because they need to respect you to do what you want" [Ika1:519]. In addition, the researcher observed how confident participants were during interviews, particularly when they were describing their patient cases and how they handled their patient cases (Reflective memo 5/20/04, 8/7/04, & 8/11/04). The benefit of the PT being confident and appearing knowledgeable was consistent with Merrill's (1994) descriptions of how to present a persuasive message to promote client motivation. Merrill described four characteristics of a persuasive message: 1) expertness or appearance of being knowledgeable, 2) nonverbal as well as verbal communication with warmth, genuineness, and empathy, 3) confidence and enthusiasm, and 4) trustworthiness encompassing technical competence altruism, and freedom from value judgment. Empathy and trustworthiness will be discussed with other literature as follows.

Humanistic Interventions

Humanistic interventions expressing empathy and caring are embedded in this theme: patient-PT relationship is important for successful patient outcomes (SPO; CC1-E2). For example, the following quote illustrates how various forms of nonverbal communication helped in establishing a trusting relationship. "How they look in the eyes, how you cry with them, how you touch them. They know that they can trust you" [Tako1:499 - 500]. Through both nonverbal and verbal communication, Sake stated: "[F]eel genuine caring and concern on your part that transfer to them" [Sake1:111]. Davis (1990) argues that empathy cannot be taught because it occurs naturally and cannot be forced to occur; however, it is beneficial to teach students attitudes and behaviors, such as self-awareness, nonjudgmental positive regards for others, and listening skills, in order to promote empathy to occur naturally. Three out of the six novice PTs and four out of the seven experienced PTs reported that they had a course in their entry-level PT program that addressed interventions, such as active listening; however, the relationship between entry-level preparation and the PTs' beliefs was not determined.

In my study, touch as a humanistic intervention was discussed by only two participants. One was Tako, who was quoted above, and the other was Fugu who described that her use of soft tissue mobilization was distinguished from doctors "white-coat or stand-off approach." Since my study aimed to examine PTs' beliefs without actual observational data, the relationship between the frequency of actual touch occurrence in their practice and their perceived value and purpose of touch could not be determined. One could speculate that participants were mostly unconsciously using touch in daily practice, and, unless they were questioned specifically about their actual touch, they may remain unconscious about their use of touch. In my study, the participants were not asked a specific question about their use of touch. Literature supports touch as an expression of humanistic care, such as empathy or caring. Helm et al.’s (1997) qualitative study of PTs’ touch style acquisition process indicated that the touch used for caring dominated in PT practice over other types of touch, such as therapeutic, assistive, or touch as an information path. In Roger et al.’s (2002) subsequent qualitative study determining how PTs used touch in inpatient acute and rehabilitation settings, assistive touch was most dominant, which was followed by preparatory touch, touch providing information, then caring touch.

In this study, being a patient advocate and being supportive of the patient’s experience in difficult times appeared to be accomplished through a good patient-PT relationship. However, being supportive for the patient can be a balancing act between being efficient and seeing all the patients who need to be seen, versus giving extra time and effort for a particular patient who might need that extra support. Anago as a supervisor stated that she had to remind the staff members: “We need to do ‘necessary’ and if you have time, do ‘nice’…nice to be a patient's advocate to go the extra miles but you also need to advocate for the patients that are still waiting to be picked up” [Anago2:118;120]. A novice PT, Saba, stated that despite similar beliefs all staff shared: “[T]here are different times about prioritizing which people are seen here…and…who you put more emphasis on” [Saba2:259].

Grahn et al.'s (1999) qualitative study in Sweden indicated that human support influenced change in the individual's level of independence. In addition, Alori (2002) reported his own rehabilitation experience as a patient after becoming an individual with quadriplegia. He believed that successful rehabilitation would require both the patient's and the PT's motivation and effort in building a good team. Ostlund et al. (2001), in their qualitative research on patients' perspectives of musculoskeletal rehabilitation, reported that patients valued someone to simply be supportive of them. They proposed a socio-emotional model of rehabilitation agents, which consisted of two dimensions: PT's supportiveness of the patient and the level of individualization of the program.

Resolving Value Discrepancy

The participants in my study who tried to create good patient-PT relationships might share underlying beliefs that collaboration between the patient and the PT is important, and through collaboration they might be able to resolve value discrepancies between them. For instance, "If you are trying to get them to do stairs and they are in ranch house…they are not going to buy into what you are going to do" [Anago1:198]. The literature supports the existence of a value discrepancy between patients and health care professionals (Anderson, 2002a; Stineman et al., 1998) and its negative impact on the outcome (Kramer et al., 1994; Saigal et al., 1999). Contrasting with experienced PTs' attempts to resolve value discrepancies, a novice PT's, Uni's, most memorable unsuccessful case demonstrated an unresolved value difference between the patient, who wanted to go home, and the PT, who believed that the patient benefited from further rehabilitation in the hospital before her discharge.

Clinical Knowledge and Skills

Experienced PTs were aware of their own specific contributions to their successful patient outcomes (CC1-E3). Participants in this study described their clinical knowledge in all three dimensions of knowledge that Higgs and Titchen (1995) described. It was part self-knowledge, because the experienced PTs acknowledged their own knowledge level and specific contributions to the outcome. It was also propositional knowledge because they knew, for instance, what specific dressings would work for a long term unhealed venous ulcer (Ika), or whether a patient's foot drop was permanent without reversibility based on knowledge about the underlying pathology (Tako). It was also professional craft knowledge, specifically procedural knowledge, in terms of knowing, for instance, how to apply dressings (Ika), how to convince the referring physicians (Ika), and how to train the patient with MAFO (molded ankle foot orthosis; Tako).

In addition, through listening to their patients carefully, experienced PTs appeared to gain self-knowledge. Novice PTs did not mention their patients' previous physical therapy experience, whereas experienced PTs described in detail how their patients were treated previously and made a contrast between two different episodes of care. Through this contrasting, experienced PTs recognized their clinical knowledge and skills. For example, when Sake worked at a nursing home as a per diem, he realized that his clinical common sense, such as the use supplemental oxygen for a patient with obstructive lung disease during activity, was indeed not common sense at that particular facility according to the patient's account. Fugu addressed the fact that her patient had been seen by other rehabilitation professionals who did not address soft tissue restriction prior to strengthening the patient's shoulder. These gaps that PTs recognized between what should be done for their patients and what was done previously by other health care professionals made them aware of their own clinical knowledge and skills, that is self-knowledge gained through contrasting different episodes of care.

Supportive literature on the importance of the PT's skills was found in the context of stroke rehabilitation. In the United Kingdom, Davidson and Walters' (2000) national survey of physiotherapists indicated that 46% of the respondents believed the skills of physiotherapists influenced patient outcomes, while 31% disagreed. Ninety-five percent of the respondents were labeled as Senior and Superintendent while only 5% were Junior, where Junior was defined as having 2 years or less of clinical experience.

Other Known Factors that Weren't Robust or Absent in My Study

In addition to therapeutic touch that was already discussed within the concept of humanistic interventions, there were several other factors that were known through literature review (Figure 2) as influencing factors for successful patient outcomes, but were not robustly present or completely absent in my study results (Figures 5 & 6). They were procedural interventions as facilitating factors and interfering factors, such as time, staff, and other facility limitations.

Specific procedural interventions described by the participants were soft tissue mobilization techniques for a patient with chronic shoulder pain (Fugu), use of a multilayer compression dressing for unhealed chronic venous ulcer (Ika), and use of MAFO for a foot drop resulted from an irreversible pathology (Tako). Other majority of cases that participants described implied multi-factorial nature that were consistent with the complexity of patient care in the reality of clinical setting. Thus, it can be interpreted that the specific procedural interventions were not unimportant, but they may not be robustly present as most important factors due to multi-factorial nature of patient care and successful patient outcomes.

Interfering factors identified in the nursing literature (Smith et al., 1994), such as time shortage, staffing issues, or facility limitations, were not robustly present in my study data. It can be speculated that the facility where the data collection occurred was a teaching hospital, where staff share an institutional value in teaching and training future health care professionals, and thus less time-pressured. It can also be speculated that the profession of physical therapy is less time-pressured than nursing profession; however, even within the profession of physical therapy, variability can exist with respect to time, staff, and facility related limitations as interfering factors for successful patient outcomes.

The discussion of PTs' beliefs about factors that influence successful patient outcomes can be summarized as follows. Participants in this study identified three common factors that either facilitate or interfere with successful patient outcomes. Those factors were patient motivation, patient medical status, and family/social support. In addition, novice PTs identified a lack of health care access as an interfering factor, whereas experienced PTs discussed patient-PT relationship and PTs' clinical skills and knowledge as facilitating factors for successful patient outcomes. Among the common factors listed, the most striking differences between novice and experienced PTs' beliefs were that novice PTs placed more emphasis on the patient's own responsibility to participate, whereas experienced PTs described various interactive strategies to promote the patient's motivation and participation in an effort to attain successful patient outcomes.

Conceptualization of Successful Patient Outcomes

As shown in the revised conceptual frameworks for both novice PTs (Figure 5) and experienced PTs (Figure 6), how PTs defined successful patient outcomes as well as their perceptions of what worked or did not work in their most memorable cases are represented in the boxes on the bottom of the right side. These perceptions influence their clinical experience and personal experience and then potentially influence both facilitating and interfering factors for successful patient outcomes. PTs' conceptualization of successful patient outcomes were not yet known through in-depth literature review (see Figure 2), thus this section represents new knowledge about PTs beliefs about successful patient outcomes.

Intended Successful Patient Outcomes

This study's participants' perceptions of their own intended successful outcomes also appeared to influence their beliefs about factors that facilitate or interfere with successful patient outcomes. The intended successful patient outcomes was also related to what the participants believed to be the main contributor for successful outcomes in their most memorable cases. All 13 participants without any hesitation were able to define their concept of successful patient outcomes. Interestingly, novice PTs individually varied in their perceived degree of change in their definitions of successful patient outcomes over time (CC3-N1), while all experienced PTs had perceived that their beliefs about successful patient outcomes had changed over time (CC3-E1).

Novice PTs defined a successful patient outcome in terms of functional improvement towards independence (CC3-N2), whereas experienced PTs conceptualized it more holistically as a return to self or a self-defined quality of life (CC3-E2). Two novice PTs addressed the importance of achieving patient satisfaction as a part of success, whereas the experienced PTs appeared to perceive that was a consequence of returning to self and attaining self-defined quality of life. Using Ajzen and Fishbein's (1980) theory of reasoned action (TRA), one of the participants' change of beliefs can be explained. Saba initially thought that his patient should be able to walk before going home (intention), because his attitude towards someone becoming a wheelchair user was considered as a last resort (attitude towards consequence of the behavior). Since Saba changed his attitude about his patient becoming a wheelchair user and perceived it more positively as long as it made the patient more independent sooner (new attitude towards the consequence), he could consider practicing wheelchair mobility instead of gait training before the patient's discharge (new intention). TRA was useful for Saba's belief change; however, experienced PTs' belief changes require further exploration due to the length of time involved in the process of change.

Most Memorable Cases Revealing PTs' Self Knowledge

In novice PTs' most memorable successful cases, high patient motivation was identified as the main contributor for success (CC3-N4), which was consistent with the facilitating factor that they identified. Experienced PTs, on the contrary, addressed that they encountered immense challenges in attaining successful patient outcomes (CC3-E3) in their most memorable cases. The challenges they encountered ranged from an initial lack of patient cooperation (Sake), to the PT's lack of knowledge about the best intervention for the patient's specific pathology and impairment (Ebi), to language barriers and patient's psychological emergency (Tako). Experienced PTs described how they overcame those obstacles through various strategies, such as changing the interactive strategies (Sake), seeking interdisciplinary input (Ebi), coordinating care with other services (Tako), and balancing what needed to be done and attending the patient's psychoemotional needs (Tako). The difference between novice and experienced PTs appeared to be the level of self-awareness or personal knowledge through which one was fully conscious and comfortable in discussing what was missing or what they had to work at to attain successful patient outcomes. It was consistent with other themes: experienced PTs were aware of their own specific contributions to their successful patient outcomes (CC1-E3), whereas the novice PTs emphasized the patient's responsibility to get better (CC2-N2).

Participants' conceptualization of successful patient outcomes can be summarized as follows. When defining successful patient outcomes, novice PTs focused on the functional improvement that aimed for the patient's independence, whereas experienced PTs viewed success in a broader, more holistic view. All experienced PTs were conscious of their belief changes over time, whereas novice PTs had different degrees in changes. TRA offered an explanation for one of the novice PT's belief change; however, the experienced PTs' changes of beliefs were not fully accounted for by it. In addition, in an examination of the participants' most memorable cases, novice and experienced PTs appeared to differ most in their self-knowledge.

Influencing Factors for PTs' Belief Formation

As shown in the revised conceptual frameworks for both novice PTs (Figure 5) and experienced PTs (Figure 6), professional and personal experiences influenced their beliefs about successful patient outcomes. In addition, I will explain why some of the factors identified through literature review (Figure 2) were not robustly present in my study.

Learning in Clinical Context

In this study, both novice PTs and experienced PTs stated that their learning in the clinical context (CC4-N1, 2 & 3, E1 & 2) influenced their beliefs about successful patient outcomes most. They appeared to value their own professional craft and personal knowledge and their clinical experiences in addition to propositional knowledge, which most likely originated from research, books, and academic education. This finding was consistent with the literature. Thornquist (1994) conducted the first content analysis of actual physiotherapy sessions in Norway to examine how PTs established a base for their choice of treatment. She contrasted PTs with medical professionals by describing the PT's reliance on the contextualized knowledge, which was what the PT gathered through asking, listening, watching, and touching the patient during the session, rather than the analysis of laboratory testing used by physicians.

Experienced PTs valued sharing skills, knowledge, and values with others (CC4-E2). As Ebi described her students: "[T]hey are teaching us as well as we are [giving to] them all the knowledge we've gained, clinical knowledge, not just the book knowledge" [Ebi2:169]. She implied that the student and herself complimented each other by her offering professional craft knowledge, while the student was providing more updated book knowledge, mainly propositional or factual knowledge. As a result, a mutual teaching and learning relationship was established. Professional craft knowledge can be valuable for the students because they have fewer opportunities to gain this type of knowledge in their entry-level academic education.

In addition to the experienced PTs valuing sharing knowledge, two novice PTs addressed the value of learning through colleagues. This finding was consistent with the current literature. Rappolt and Tassone (2002) conducted an ethnographical study of rehabilitation therapists (PTs and occupational therapists) in Canada to describe how they gather, evaluate, and implement their knowledge in their clinical practice. They reported that the use of colleague consultation was the primary source of information acquisition.

Family Illness, Values, Upbringing and Other Influences

Participants' experiences with their own family member's illnesses influenced their perceptions about illness or the role of the PT (CC4-N3). The experience also reminded the experienced PTs of the patient's own values (CC4-E3). Being recipients of health care services or as caregivers instead of health care providers appeared to make the participants reassess and reflect on how they were practicing as PTs. Using Higgs and Titchen's (1995) dimensions of knowledge, participants appeared to have gained valuable personal knowledge by being caregivers for their family members.

It is not surprising to find that how participants were raised (CC4-E4) and what specific values were emphasized in their family lives (CC4-N4) influenced their current beliefs. However, the extent of their discussion of their own family values and their upbringing varied among the participants (Reflective memo 6/4/03). Although the researcher noted the participants' willingness to share their inner most thoughts and experiences openly throughout the data collection, it was not possible to determine the interview structure's contribution to the variety of degrees of participants' responses.

Interestingly, novice PTs described their other work experiences, which influenced their beliefs about successful outcomes more so than experienced PTs did. For example, through anatomy tutoring, Koi observed that motivated students in general do better than unmotivated students. She saw similar relationships between patients' motivation levels and their outcomes in her PT practice. Ikura mentioned what she learned through her instructor role in aquatic exercise for children and adults with quadriplegia, which was applicable to her current practice, in particular, how to encourage patient participation. Toro described his military work experience in planning with the anticipation of consequences in advance, which parallels what he believes important: "putting himself into rehabilitation therapist's shoe" by asking himself about the appropriateness of recommending his patient to an inpatient rehabilitation facility from an acute care hospital.

Participants in this study did not explicitly discuss their religious beliefs as a basis or major influence on their beliefs about successful patient outcomes. One of the seven experienced PTs addressed her religious background as a part of who she was, while one of the six novice PTs stated, “[U]ltimately it’s in God’s hands” [Toro1:551] to illustrate undeniable uncertainties that existed with patients’ lives, which were beyond human capacity to know for precise future prediction.

By examining participants’ demographic data as shown in Tables 3 through 6, it is possible to speculate commonly shared cultures among them, such as participants’ and patients’ predominant ethnicities, and the type of facility where they practice. It is also possible to speculate the ethnic and socioeconomic discrepancies between the participants and the patient population. With respect to the generational cohorts, 10 out of the 13 participants were of “Generation X”, whereas 3 were “Baby Boomers.” However, the results of this study did not reveal specific cultural beliefs based on the demographics. Instead, it is possible to identify a professional physical therapy culture. For instance, one of the themes, patient motivation is an important ingredient for successful patient outcomes (CC1-N1 & E1), indicates that physical therapy interventions require a patient’s willingness to participate, unlike surgeons performing an operation on an anesthetized patient or nurses injecting medicine into the patient. The need for collaboration between the patient and the PT can be considered one of the physical therapy profession’s cultural beliefs.

Other Known Factors that Weren’t Robustly Present in My Study

There were factors that were identified as influencing factors for PTs’ belief formation through literature review (Figure 2) that were not robustly present in my study. They were participants’ education, length of experience, specialization, research, personal philosophy, and self illness. Entry-level academic education was much less frequently cited as a source of influence than clinical internship experiences. Few influential professors were portrayed as to bring their passion and enthusiasm in our profession through teaching and learning. All novice PTs in my study expressed their desire to gain more clinical experiences, so that they implied that they could build their knowledge and skills further. Experienced PTs, on the contrary, appeared to be interested in each of their quality of encounter with their patients, rather than the additional accumulation of number of years.

Specializations designated by American Physical Therapy Association (APTA) were not identified as influencing factors for belief formation in my study. This may be related to the operational structure where all staff members rotate because it requires all staff to have wide bases of skills and knowledge to be effective in their clinical practice, as opposed to possessing a specialized narrow expertise. It also corresponds with the fact that only 2 participants identified as being certified specialists for lymphedema (Kaki) and wound care (Ika). Other self-identified niche without certification existed in pediatrics (2 PTs), neurology (1 PT), cardiac (1 PT), and pulmonary (1 PT). Another explanation would be that acute care PT practice is not well aligned with the specializations created by APTA.

Reliance on research has been heavily emphasized throughout the contemporary PT academic education; however, research as a source of influence on PTs' beliefs was not robustly present in my study. Research was not absent in the participants' responses, but much less frequently spoken during their interviews. Ika, for instance, stated that she attempted very specific diabetic patient education instead of general patient education by citing an effectiveness research on various types of diabetic education.

One of the potential explanation for why PTs rely much more on their colleague input as well as their direct observation in their clinical experience was that the potential gap between research findings and the actual patient encounter in a clinical setting. PT research rooted in a positivistic tradition value experimental studies that show specific interventions' specific effects, whereas PTs in actual clinical practice require to make clinical decisions based on multiple factors far more complex than a specific condition and a specific intervention in research experiment. That is why we need more than ever case studies as well as naturalistic studies that will show the true complexity of various clinical cases.

Influencing factors for participants' belief formation can be summarized as follows. Both novice and experienced PTs addressed that learning in the clinical context influenced their beliefs most. Learning from colleagues and sharing skills and knowledge among them were perceived as a valued method of knowledge acquisition, both professional craft knowledge and personal knowledge as well as propositional knowledge through research and textbooks. Experienced PTs perceived that teaching to and learning from physical therapy interns were mutually valuable because of the different types of knowledge each brings. Among various personal experiences, family members' illnesses, family values, upbringing, and other work experiences were discussed as sources of influence on their belief formation. Experienced PTs had more direct exposure to their family members' illnesses as compared to novice PTs; thus, richer descriptions emerged from experienced PTs. On the other hand, work experience outside of the PT profession was more prominent among novice PTs than experienced PTs.

Examination of the main influencing factor for PTs' belief formation revealed that participants' beliefs are derived mostly from direct observation in either professional or personal experience. Under these derived beliefs, participants appeared to have a positive attitude towards authority, such as their colleagues and their patients, whereas in an academic setting the authorities were textbooks, journals, and instructors. This shift of authority when they entered their clinical practice appeared to be consistent with the findings in the expert study by Jensen, et al.(1999).

Limitations of the Study

One of the limitations of this study was that it was not possible to analyze the participants' personal writings due to limited availability. Two out of the thirteen participants submitted their personal writings, such as poems. Several participants indicated that they did not write regularly and did not have personal writings to share. One participant reported that she had an unpublished article related to her clinical specialty, but she could not share it due to pending publication.

In addition, all 13 participants practiced at the same clinical facility and appeared to have a close working relationship among themselves. It is impossible to determine whether any participants discussed their own interview experience with others who were scheduled for interviews. Even if there were exchanges of information about the interview experience among participants, it is impossible to determine the influence of their discussions on the interview findings. The close working relationship also may have contributed in formulating a unique culture of this facility that may not exist in other facilities of similar practice. Therefore, it suggests a potential variability of data from other acute care hospitals.

Furthermore, the descriptive results of this study must be used with the reader's generalizability, which was also addressed in chapter 3. Until a decade ago, the acute care hospital was the most common facility type for PT employment upon graduation. However, the current American Physical Therapy Association (2003) member demographic profile reports that the highest percentage of PTs practice at private outpatient offices or group practices. Thus, the descriptive results of this study should not be discussed in isolation from the clinical practice setting as well as the participants' demographic characteristics.

Finally, although a grounded theory approach was implemented, the theoretical sampling must continue further beyond this single exploratory qualitative research in order to verify and further refine the theory presented in this study.

Future Research

This exploratory qualitative research study resulted in rich descriptive data on PTs' beliefs about successful patient outcomes. Further studies will be required to verify and refine the interpretations presented and to test the hypotheses which were derived. The potential usefulness of the hypotheses will be determined first within the various practice areas of the physical therapy professional context. Furthermore, it may expand into the research in other health care professionals as well as patients who are recipients of those rehabilitation services. It is also beneficial to examine if any of the hypotheses derived from this study will contribute toward a theory that will be applicable outside the PT profession, such as for educators, learners, and researchers. First, suggestions for future research derived from the results of this study will be presented as a continuation of hypothesis building and secondary data analysis. Then, hypotheses generated from post hoc analysis of the data are presented as an additional future research direction resulting in hypotheses testing.

Continuation of Hypothesis Building

Replication of this study with additional data sources, such as observation of the clinical interactions between the PTs and their patients/clients, would aid in verification and further validation of study results. Work as a team of researchers would establish investigator triangulation which would further strengthen the methodological rigor of a future study.

Glaser and Strauss (1967) describe theoretical sampling as the sample selection process in which specific comparative data would be gained in order to fill the theoretical gap (Charmaz, 2000; Glaser & Strauss, 1967). Application of the concept of theoretical sampling for future research is described below as strategies to continue hypothesis building. Recruiting participants from different settings, such as private outpatient offices, or from specialized PT services, such as hand therapy, may be valuable in determining if the findings were practice setting dependent. For instance, family support as well as patient’s medical status, which were believed to be important factors for patient outcomes, might be less important for PTs who primarily practice in an outpatient practice setting, such as sport physical therapy.

In addition, recruiting participants with different cultural or ethnic backgrounds will also be considered for identifying cultural beliefs that were not discovered in this study. This can be achieved either by recruiting PTs with diverse cultural and ethnic backgrounds in this country or recruiting PTs abroad, using international conferences, such as the World Congress of Physical Therapy, or through an internet listserv with multinational subscribers.

Recruiting participants among other health care practitioners, such as physiatrists, nurses, occupational therapists, and respiratory therapists, will add further insight into how each health care practitioner views successful patient outcomes in comparison with participants in this study. Comparison among diverse health care disciplines may aid in determining whether there are any PT-specific cultural beliefs within the profession of physical therapy.

Finally, there were two conceptual boxes that were identified during the literature review but not planned for data collection. They were patients' beliefs about successful patient outcomes and the actual outcomes. It would be beneficial to recruit both PTs and their patients or clients to investigate how both PTs and their patients view their successful outcomes. If there are any discrepancies between beliefs of the PT and the patient, then the actual outcome would be compared with two different views given by the PT and the patient. By following the entire episode of patient care, both the PT and the patient's prediction of outcomes and the actual outcome can be compared.

Secondary Data Analysis

The data collected in this study can be analyzed by different researchers in the future. The data can also be analyzed using various content analytical techniques (Krippendorff, 1980a). For instance, correlation of frequency of certain code words, such as "motivation" and "teaching," can be determined. In addition, based on this study's results, participatory action research can be initiated (Kemmis & McTaggart, 2000). The results will be brought back to the participants' practice and researchers will seek their feedback, which will be reflected upon in the following cycle of data collection.

Post Hoc Analysis Using Selective Coding

The following data interpretation is an attempt to explore further the connection between the experiences on the left side and the PTs' beliefs on the right side of both revised conceptual frameworks (Figures 5 & 6). By focusing on the fact that all seven experienced PTs' and one novice PT's beliefs definitely changed, axial coded data were preliminarily examined with attention given to what was occurring in those whose beliefs had changed and what was not occurring among those whose beliefs had not changed. This process was based on personal observation, but not systematic analysis of the data. However, there is merit to describing it because it shows the potential values for future research.

Particularly during the interviewee summary writing phase, the researcher recognized further differences in the quality of the participant's interview data under the same axial code. Three selective codes were identified as the basis for an additional analysis of the data. The codes were understanding, applying, and reflecting, which are described as follows.

PT's Understanding of Self, Patients, and Others

Among the data coded as the patient's psychosocial status (AC1), there were different degrees of the participants' understanding of the patient's motivation, depression, anger, sadness, and how they learned about them, such as by asking the patient, reading the chart, or talking with the family members. For example, novice PTs (Uni, Saba, & Toro) did not discuss the patient's own goals during their presentation of their patient cases during interviews, while all of the experienced PTs readily presented their patients' own goals without being solicited. The experienced PTs (Aji, Ebi, Sake, Anago, & Tako) also had richer descriptions about the patient's life outside the hospital than the novice PTs (Uni, Kaki, & Toro). This finding was consistent with a part of the multidimensional knowledge of expert PTs reported by Jensen et al. (1999) in which the PT gained focused knowledge from the patient and reflected on practice through thinking about it.

The level of the participant's understanding of the patient's own goals and his or her home situation appeared to be closely related to the PT's effort and willingness to inquire, particularly when the information is not readily available. Various levels of the PT's effort were evidenced through the PT's method of inquiry, from primarily relying on the patient's chart review and interviewing the patient (Ikura), to calling the patient's home to interview family members and discussing the patient with other health care team members (Ika & Tako).

The artifact data supported the existence of a diverse level of PT understanding of the patient's psychological status. For example, Tako described her patient's difficult time dealing with her new diagnosis of being HIV positive and documented this consistently in her patient care notes (Tako's Artifact Pt 12). When the patient was transferred to the rehabilitation unit, this patient expressed her difficulty in dealing with non-Spanish speaking health care professionals (Saba's Artifact Pt 12-Rehab). However, Saba, in the rehabilitation unit, did not document any of this patient's psychosocial support needs in the chart (Saba's Artifact Pt 12-Rehab). Furthermore, patient care notes also provided evidence of a diverse level of the PT's understanding of the patient's medical status (AC2) as well as the patient family/social support (AC3).

By reviewing the data coded as health care professionals' bias/prejudice with respect to patient care (AC9) and the PT's philosophical approach to patient care (AC8), the level of self-knowledge and the level of understanding of oneself appeared to vary among participants. For example, three experienced PTs (Ika, Anago, and Tako) described their own and other health care professionals' bias toward certain patients who were obese, older, or of Hispanic ethnicity, while others did not demonstrate their awareness of any bias.

PT's Applying Knowledge and Skills in Clinical Practice

The axial coded data revealed that the participants' applying what they know or believe varied. For example, the PT's strategies to interact with patients (AC 4), the PT as a teacher (AC 5), and the PT's clinical skills and knowledge (AC 6) revealed different qualities in application of interactive skills, teaching skills, and physical therapy skills and knowledge. The data coded as health care teamwork (AC10) and the health care system's influence (AC11) demonstrated how the PTs applied their skills to work closely with other health care team members and how their knowledge about insurance or the health care system was applied. Finally, PT's learning in clinical context (AC 13) revealed applying skills and knowledge in the clinical context contributing to the PTs' learning.

If PTs continue to apply only what they know or believe, there would be no change in their beliefs; however there was evidence of belief change in this study. Thus, another cognitive element or a process should be in the mechanism of plasticity of beliefs.

The PTs' quality and ability to apply their own skills and knowledge may depend on the level of understanding of the self and others described in the previous section. Even after assuming understanding, applying what one understands is almost always challenging. Norman (2002) states in his book, *The Design of Everyday Things*, that there are many gulfs between mental and physical states. In other words, one's intention, goals, and interpretation may not necessarily be best represented in the act of applying them. For example, although the PT might intend to help the patient be satisfied with his or her progress and be able to go home safely, one can not guarantee such a successful outcome for every patient, possibly due to the PT's inability to persuade the patient to use a cane for walking safety. Applying skills and knowledge are necessary during the therapeutic intervention, where the interaction between the PT and the patient is the integral part of the physical therapy interventions.

The most robust diversity in the level of applying knowledge perceived in the interview data was found to be coded with the following axial codes: PT's strategies for interacting with patients (AC4), PT as a teacher (AC5), PT's clinical skills and knowledge (AC6), health care teamwork (AC10), health care system's influence (AC11), and PT's learning in the clinical context (AC13). The PTs' strategies for interacting with patients, for instance, could vary significantly in quality, such as how persistent and how innovative the PTs could be. Although observation of direct patient care might yield the strongest evidence of the PTs' application of their knowledge and skills, the in-depth interviews, artifacts, and informal observation provided rich support for this concept of applying.

Sake understood his patient was not responding to his interactive approach and yet achieved success by being persistent and applying another approach to connect with the patient. Koi believed in her role of the PT as a teacher. She taught her patient in every single session and documented it most consistently (Koi's Artifact Pt 5 and 6). Ika also emphasized the importance of patient education; however, her documentation (Ika's Artifact Pt 27 and 28) did not reveal her patient education activity as consistently as Koi's. During informal observation, Ika demonstrated various teaching techniques, such as the use of visual aids and vivid examples, to teach her PT intern and the staff about wound healing (Field note/reflective memo 10/1/03) that was consistent with her interview data, such as "Patient education definitely, there is nothing that's going to happen unless they know why or what you are doing" [Ika1:216].

PT's Reflecting to Deepen Understanding

The participants in this study did not use the words "reflection" or "reflecting" during their interviews; however, phrases such as, "stepping back," [Saba2:185; Anago1:109], "looking back and you think about it" [Fugu2: 26], and "looking back," [Ebi2:14] indicated their reflective thought processes to deepen their understanding of their own perspective, such as what constitutes successful patient outcomes. PTs who practice without reflection may not deepen their understanding and were equivalent to those who Saba's clinical instructor described as "like a monkey and sort of just follow" [Saba2:35] or, as described by Ebi, they "may go through the motion" [Ebi1: 229].

By reviewing the axial coded data with the PT's own psychosocial status (AC1), PT's learning in the clinical context (AC13), and PT's continuing learning (AC14), the level of reflection that PTs engaged in after applying their skills and knowledge appeared individually different. For example, monitoring a therapeutic process could also include the PT's own emotional response to the process (AC1). The experienced PTs (Ika, Ebi, & Tako) more often address their own emotional responses to their patient care, which may become a driving force for action. For example, anger felt for injustice or exposure to some form of prejudice, such as ageism, would trigger the PT's action to become an advocate for the patient. The PT's frustration when the patient is denied necessary health care services or equipment could also be a motivating factor for corrective action, such as appealing endlessly to the insurance companies. This type of advocacy was also described by Jensen et al. (1999) as one of the characteristics of experts in PT.

Reflection occurs during and after the episode of therapeutic intervention as the PTs monitor the process, check for accuracy in the understanding and application of therapeutic activities, and learn from the actual outcome as compared to the intended outcome. The main function of reflection is to bring the PT's understanding one level deeper, to the so-called meta level of understanding.

Metacognition is defined as "an ability to monitor one's current understanding and decide when it is not adequate" (National Research Council, 2000, p. 47). Most of the experienced PTs demonstrated some evidence of metacognition. Through reflecting, they understand their own limitations, which further deepened their understanding. Metacognition through reflecting is considered an important element in expertise (National Research Council, 2000; Jensen et al., 1999). Another aspect of metacognition described by the experienced PTs was one's continuous monitoring of the therapeutic process and anticipating and preparing for barriers and obstacles for successful patient outcomes. The experienced PTs expressed their roles in "knock[ing] those barriers down" [Sake2:57] or managing various aspects of patient care in order to achieve successful patient outcomes (Ika). Their successful cases involved challenges and obstacles, contrasting with the novice PTs' success attained without describing their immense challenges or efforts on their part (CC3-N5 & E3). The potential relationship among three selective codes as an influence for plasticity of beliefs is depicted in Figure 7.

Themes Through Post Hoc Analysis

Table 21 summarized the nine emerging themes through post hoc analysis using selective codes. In Table 21, each theme is followed by the most relevant axial code, and corresponding representative short quotations were cited. Each theme is described further in the following section.

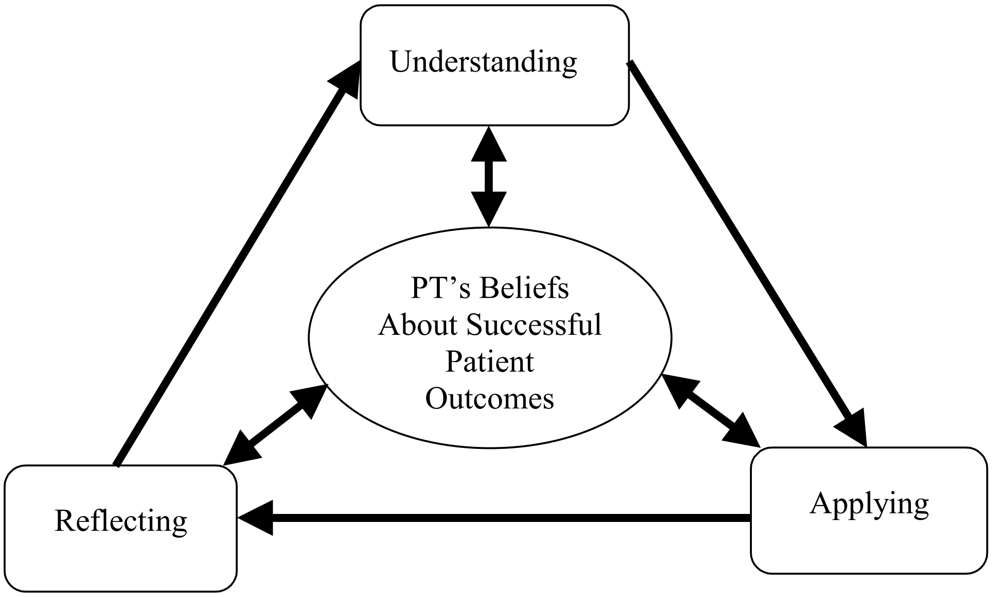

Figure 7. Potential Relationship Among Three Selective Codes and Influences on Plasticity of PT's Beliefs About Successful Patient Outcomes

Table 21.

Themes Through Post Hoc Analysis

	Understanding (Selective Code)
PH-Theme 1	Understanding of the patient status Patient’s psychosocial status (AC1) “[P]eople don't take responsibility for their health” [Toro1:583]. “I'm more aware of what the patient wants” [Aji2:135]. “[H]elp them accomplish for themselves” [Tako1:219]. Patient’s medical status/learning abilities (AC2) Patient’s family/social support (AC3) PT’s own psychosocial status (AC7) “I think it's understanding…where the patient is coming from and what's important for them” [Anago1:197].
PH-Theme 2	Understanding of one’s own self PT’s clinical skills and knowledge (AC6) “I don't know enough to help them…and sometimes I don't know that I don't know enough until after the fact, which is again a very humbling thing” [Tako1:755]. Health care teamwork (AC10) PT’s own psychosocial status (AC7) “[O]ne thing that made this case success was that...I am not going to pat myself on the back, but I am…people are like, ‘this is going be too much of a problem, we are just going to send her home’” [Ebi1:238 - 239]. Learning in clinical context (AC 13) “I think experience because I think when you first start out as a therapist, you think, you can do it” [Fugu1:74]. “[B]eing more aware of where my boundaries are…or different cultures or ethnicities, just being more open in general because you never know what you are going to come across here” [Aji1:241].
PH-Theme 3	Understanding HCP’s bias HCP’s bias/prejudice regarding patient care “[T]here is a cultural thing with Spanish male who is very bravado, but I don't see in women, that's such a stereotype but they have a hard time with pain” [Ika2:59]. “I think there was a lot of bias with other hospital workers because of her size” [Anago1:390]. “I think many people who have psychiatric or psychologic impairments that are very capable of making good decisions, and maybe we don't trust them enough to do it” [Tako1:773].

Table 21. (Continued)

Themes Through Post Hoc Analysis

Applying (Selective Code)

PH-Theme 4 Apply teaching patient/family
- PT as a teacher (AC5)
  - “Education is primary because people really can understand the physiology behind why they have the wounds and understand how you are doing each thing to fix that problem, then they will know what they need put up with to get a successful patient outcome” [Ika1:73].
  - “I feel much stronger, more confident…in what I'm saying to them and how knowing the whole process and being able to explain different parts of how their experience here is going to go” [Saba2:140].

PH-Theme 5 Applying interactive strategies
- PT’s strategies for interacting with patients (AC 4)
  - “Really taking my time with her. First day seeing her bedside letting her stay bedside a day or two and then progressing her” [Aji1:50 - 51].
  - “I have found that a lot of joking tends to work well…when you have a good relationship… it's kind of motivational…who is joking around with the patient, patient joking around back at the therapist and the other patients” [Fugu1:145].
- PT’s philosophical approach to patient care (AC8)
  - “So you really need to talk with them and find out what's important to them to get out of here what they need to do once they leave the hospital” [Anago1:200].

PH-Theme 6 Applying PT’s advocacy for patient
- PT’s philosophical approach to patient care (AC8)
  - “[D]on't want them to fall into the crack” [Ebi1:148].
- Health care system’s influence (AC11)
- PT’s view of SPO (AC12)
  - “I think like over the years, change in insurance…we have to advocate harder now than we did before to make sure that patients get what they need” [Anago1:348].

Table 21. (Continued)

Themes Through Post Hoc Analysis

	Reflecting (Selective Code)
PH-Theme 7	Awareness of PT’s own belief change Views of SPO (AC 12) “Success goes way beyond that, and getting them to accept who they are, and getting them more prepared to go out in the world and face people, if they have deformity or go back to working or doing things that have frightened them and success definitely changed” [Ika1:187]. “I think I am more global, whereas before, I looked through tunnel” [Ebi1:300]. “I think when you start practicing successful patient outcome is [patients] did what you wanted them to do…by virtue of how I was raised that…evolution to it's not about me” [Take1:536, 548].
PH-Theme 8	Learning from PT’s own mistakes Learning in clinical context (AC 13) “I learned that as much as you believe your patient that you should take what they say with grain of salt because I really for a while there she had me” [Kaki1:298]. “[P]art of that is my own fault for not making the effort to know more people and know more people's names but at the same time…” [Aji1:246]. “[W]hen it happened it's when I broke my patient's leg” [Tako1:549].
PH-Theme 9	Anticipating challenges to prepare PT’s clinical skills and knowledge (AC 6) Learning in clinical context (AC 13) “[I]f I don't know anything, or if I think another discipline needs to be involved, I will go seek them out” [Ebi1:34]. “You can see those people coming like a storm coming across the sea” [Ika1:323]. “I think when you are fresh and new, you are not sure what to expect…” [Kaki1:238].

Note. PH: post hoc, SPO: successful patient outcomes, (AC #): Axial code number, HCP: health care professionals

PT's Understanding of Patients, One's Own Self, and Others

PH-Theme 1: Understanding the patient status (AC 1, 2, & 3). Although both groups addressed the importance of understanding the patient's motivation, medical status, and learning abilities, the novice PTs appeared to place more responsibility on their patients for their rehabilitation outcomes. Descriptive terms, such as, "ultimately her (the patient's) success is up to her" [Kaki1:72], "that's ultimately their games" [Kaki1:176],

and "people don't take responsibility for their health" [Toro1:583] were heard in the novice PTs' interviews, while "help them accomplish for themselves" [Tako1:219] and "I'm more aware of what the patient wants" [Aji2:135] were used among the experienced PTs. Thus, the experienced PTs expressed the more collaborative nature of their practice with their patients, which is consistent with the practitioner-collaborative model suggested in the literature (Jensen et al., 2002).

PH-Theme 2: Understanding of one's own self (AC 5, 7, 10, & 12). The main characteristics of successful cases among the novice PTs was their patients' motivation. The experienced PTs, on the contrary, demonstrated their understanding of their own contributions, limitations, and emotional responses to their most memorable successful cases. For example, Ebi stated:

> I think one thing that made this case success was that...I am not going to pat myself on the back, but I am…people are like, this is going to be too much of a problem, we are just going to send her home. People just don't realize what her complaint was and that we had the ability here maybe to address that. So trying to run around and try to gather up information and look at other disciplines for information, but not allowing her to fall

> through the crack, and say, "we can do something about it. [Ika1:238; 240 - 242]

The novice PTs' unsuccessful cases involved a lack of patient motivation, except for two cases due to medical status.

PH-Theme 3: Understanding of HCP's bias. Each one may be subtle, but there were descriptions of health care professionals' biases regarding patient care. Only the experienced PTs (Ika, Aji, Fugu, Ebi, Anago, & Tako) described their awareness of various forms of bias toward individuals who were older or obese, as well as males with Hispanic ethnicity.

PT's Applying Knowledge and Skills in Clinical Experience

Based on the initial level of understanding, a PT would apply his or her skills and knowledge to achieve successful patient outcomes. The deeper the PT's understanding, the better this applying process would become. Applying an appropriate physical therapy intervention, including interactive strategies, was described.

PH-Theme 4: Applying teaching patient and family. Teaching patients and their families was considered an important intervention by both groups of PTs, because it would empower the patients and would potentially improve the quality of their lives.

> Education is primary because people really can understand the physiology behind why they have the wounds and understand how you are doing each thing to fix that problem then they will know what they need put up with to get a successful patient outcome. [Ika1:73]

Three novice PTs (Saba, Kaki, & Koi) expressed that they became more confident over time in overall practice, but they specifically mentioned that they increased the comfort level of their teaching skills. For example, Saba stated: "I feel much stronger, more confident…in what I'm saying to them and how knowing the whole process and being able to explain different parts of how their experience here is going to go" [Saba2:140]

PH-Theme 5: Applying interactive strategies. The experienced PTs emphasized the importance of mutual understanding to achieve successful outcomes (CC1-E2), while the novices appeared to rely more on patient motivation without mentioning the issues of interactive strategies (CC3-N3). Useful interactive strategies to enhance their therapeutic relationships were often learned in the clinical context, rather than through academic education. Similar to other clinical skills and knowledge, the experienced PTs appeared to possess more of a variety of interactive strategies to achieve successful patient outcomes.

PH-Theme 6: Applying PTs' advocacy for patients. The experienced PTs were more explicit about their roles in being patient advocates (Aji, Fugu, Ebi, & Anago). Particularly when the patient appeared vulnerable, the experienced PTs would take extra steps because they "don't want them to fall into the crack" [Ebi1:148]. Because of this advocate role, the experienced PT addressed the importance of being able to speak up more effectively to other health care professionals, such as the physicians and surgeons (Ika, Ebi, & Tako).

PT's Reflecting to Deepen Understanding

PH-Theme 7: Awareness of one's own belief changes. Awareness of one's own belief changes could be considered evidence of reflection on one's own career. Six out of the seven experienced PTs robustly expressed their belief changes since the beginning of their PT careers, while the novice PTs' belief changes either did not occur or their changes were in progress.

PH-Theme 8: Learning from PT's own mistakes. Making mistakes or having a sense of failure was captured as a point of learning and a point of reflection by some experienced PTs (Aji, Ebi, & Tako) and one novice PT (Kaki). The concept of competency appeared to dominate the mind of the novice PTs. Some of them (Uni & Saba) admitted that they almost felt that they must be able to manage patient care by themselves because they were licensed PTs. It can be speculated that they were repeatedly told throughout their physical therapy schooling that they must be competent when they graduate to become entry-level PTs.

The novice PTs appeared to have more difficulty admitting to or recognizing their own limitations, while the experienced PTs seemed to be more comfortable saying, "I don't know" because they knew their own limitations better. Reflection is necessary in order to understand one's own limitations. By stepping back, comparing what was intended with what actually happened, the PTs could see their shortcomings. Another potential explanation for why the novice PTs appeared more conscious of their competency was found in the education literature. In *How People Learn* (National Research Council, 2000, p. 48), it is stated that beliefs about the characteristics of experts can influence how people learn and develop themselves toward expertise. If one holds the idea of an expert as someone who has all the answers, then he or she would become overly competency-conscious, which would become a constraint for new learning (National Research Council, 2000). According to Hatano and Inagaki (1986), there are two types of experts. The previously known experts are ones with all the answers within the finite boundary of their expertise and who excel in routines, whereas another type of expert is the adaptive expert. The latter is able to approach new situations with flexibility and continue to learn throughout their lifetime. This newer expert, the adaptive expert, is consistent with the characteristics of physical therapy experts found by Jensen et al. (1999), specifically PTs being flexible, improvising, and being life-long learners.

PH-Theme 9: Anticipate challenges to prepare. Experienced PTs described their anticipation of challenges or difficulties and preparing for them in order to achieve successful outcomes. For example, Ebi generalized her seeking other disciplines' help while describing her successful patient case: "[I]f I don't know anything, or if I think other discipline needs to be involved, I will go seek them out" [Ebi1:34]. Ika described how she could detect the challenges by saying: "Oh boy, we have to get psych eval, pain eval, the doctor has to be involved, nutrition has to be involved, family meeting, at the get-go…You can see those people coming like a storm coming across the sea" [Ika1:322 - 323]. Kaki as a novice PT described the beginning of her career before accumulating her learning in the clinical context: "I think when you are fresh and new, you are not sure what to expect" [Kaki1:238].

The above post hoc analysis suggests that there is a potential relationship among PTs' understanding of patients, PTs themselves, and their environment, PTs' application of what PTs understand, and how PTs reflect upon their understanding and their application of their skills and knowledge in practice. This post hoc analysis suggests the potential role of PTs' reflection on the plasticity of beliefs. Further study of why such a robust change of beliefs about successful patient outcomes were perceived among experienced PTs and one novice, but not the other novice PTs.

Toward a Theory of PTs' Beliefs About Successful Patient Outcomes

Through multiple coding and systematic comparative analyses of the data in this study, a new perspective on successful patient outcomes emerged. By focusing on the plasticity of beliefs, the PTs' beliefs about successful patient outcomes appeared to be relative to the PTs' quality and level of understanding, applying, and reflecting (see Figure 7). The relative nature of the PTs' beliefs about successful patient outcomes may partly explain why some clinicians appear unwilling to use or are not satisfied with currently available physical therapy outcome measures. Those outcome measures are typically designed to analyze a specific impairment, function, or disability without regard for the PT's own intended patient outcomes. In addition, participants in this study appeared to value professional craft knowledge gained through their own clinical experience far more than knowledge gained through reading journals or advanced academic education. This type of clinicians' value can also be explained through the theory of the PTs' beliefs about successful patient outcomes.

The comparative analyses between the two groups with different lengths of clinical experience provided a cross-sectional view of the potential development of PTs' beliefs over time. Plasticity of the PTs' beliefs is the basis for the ongoing development of the PTs' beliefs. By adding a time dimension to the loop formed by the PTs' cognitive element, understanding, applying, and reflecting (see Figure 7), the plasticity of beliefs over time can be visualized. PTs' beliefs about successful patient outcomes may change due to these three cognitive-physical activities of understanding, applying, and reflecting, as illustrated in a spiral model (see Figure 8). This spiral model may explain how the PT's level of understanding, applying, and reflecting may influence the PT's own beliefs about successful patient outcomes over time. For example, the length of clinical experience increases the clinician's opportunities for "application" of skills and knowledge that could become a rich source for a deeper "reflection" that results in a deeper level of "understanding." Thus, it is natural to perceive that the more clinical experience one possesses, the more opportunities for application, reflection, and further understanding. However, there were some exceptions in this study data where PTs' levels of reflection appeared to be independent of their total years of clinical experience.

If the PT fails to reflect, he or she would circle at the same level of understanding;

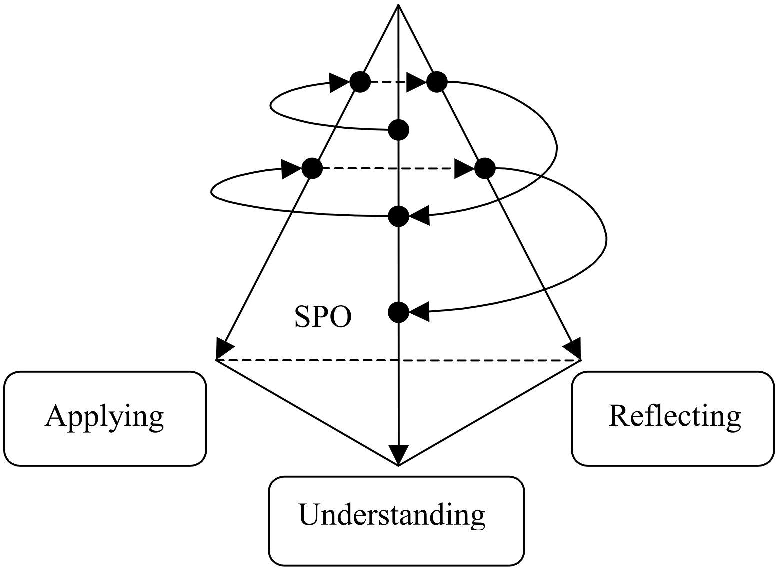

Figure 8. Spiral Model: PTs' Beliefs About Successful Patient Outcomes (SPO)

however, the PT who succeeds in reflection would be lead to a deeper level of understanding. Thus the key feature here is the PT's quality of reflection that could make one's clinical experience most meaningful and lead him or her to a deeper level of understanding.

Schön (1983) described two types of reflection: reflection-in-action and reflection-on-action. Reflection-in-action is a thinking process that is provoked by one's surprise or puzzlement due to a gap between the intended and the actual results while working on a particular task. Schön (1983) states, "We reflect on action, thinking back on what we have done in order to discover how our knowing-in-action may have contributed to an unexpected outcome." In the spiral model (see Figure 8), the concept of reflection-in-action represents a completion of a circle which consists of understanding, applying, and reflecting within a short period of time, such as within a single therapy session or during an encounter with a patient, so that the clinician makes appropriate modifications to his or her strategies to accomplish the goal for the session. Reflection-on-action, on the other hand, represents a completion of the circle after an encounter with a patient has ended. According to my data, the main catalyst for this spiral process appeared to be the PT's learning in the clinical context. For example, discussing and sharing information with one's colleagues is a mechanism that facilitates reflection-on-action. Due to this main catalytic action of the PT's clinical experience, the total years of clinical experience provides the PT with more opportunities to experience spiral completion. However, it might be too short-sighted to correlate the length of clinical experience directly with the depth of understanding. The 13 participants are spread out in the whole spectrum of reflection. Their level of reflection did not appear to completely correspond to their total years of experience. Some novice PTs demonstrated their potential to exceed the level of reflection of some experienced PTs when they gain similar years of clinical experience.

There is a similarity between the spiral model presented here in the context of PTs' beliefs about successful patient outcomes and a view of active learning in education proposed by Fink (2003). Fink emphasizes the importance of an active learning experience in every education goal. He presents a holistic view of active learning which consists of three similar components: "getting information and idea," "experiences," and "reflecting" (pp. 106-107). He states that it is "a new conceptualization" (p. 106) of active learning. However, the concept of active learning itself is not new. Dewey (1938) presented how certain qualities of experience, in terms of environment, situation, and interactions, have the potential to transform individuals towards positive growth.

The spiral model is the beginning of an attempt to theorize what influences PTs' beliefs about successful patient outcomes. From the fact that the experienced PTs appeared to have more reflecting and intending for a higher analytical level of outcomes as compared to novice PTs as a whole, the following hypothesis was derived. The more reflective a PT becomes, the higher the preferred level of outcome analysis along a disablement model. In other words, one becomes more holistic in the view of successful patient outcomes. Among several disablement models available, the National Center for Medical Rehabilitation Classification (pathology → impairment → functional limitations

→ disability → societal limitations; American Physical Therapy Association, 2001) was cited in the *Guide for Physical Therapy Practice*.

Hypothesis Testing

There is no known physical therapy outcome measure that reflects the individual PT's beliefs about successful patient outcomes. The following are three hypotheses that were derived through the post hoc analysis and strategy for hypothesis testing.

1. PTs' understanding, applying, and reflecting will influence their beliefs about successful patient outcomes. To test the first hypothesis, select a pilot sample of PTs who state that their beliefs have changed over time. Then, administer the pilot questionnaire, which consists of items for each construct of understanding, applying, and reflecting, as well as their beliefs about successful patient outcomes. The respondents will be asked to answer by recalling when they started their PT practice as well as stating their current beliefs. After an acceptable reliability and validity of the survey instrument are attained, the mail questionnaires will be sent out to the representative sample of the PT population and univariate analysis will be performed for each of the 3 different constructs and the construct of beliefs.

2. More reflective PTs would prefer a higher level of analysis of the outcome in the disablement (ablement) model. To test this hypothesis, the following research steps can be considered. First, a survey study could be implemented to examine the PTs' preferences and the use of currently available outcome measures. It could be followed by in-depth interviews of participants to assess each PT's reflective level. Then, the relationship between the PTs' preference of the outcome measures and their levels of reflectivity could be examined by the use of correlational statistical analysis.

3. Finally, the alignment of all learning goals, learning activities, and assessment formats to include all three components (understanding, applying, and reflecting) will facilitate PT students to learn themselves going through these three steps. To test this hypothesis, pre and post survey of two classes (experimental and control) will be performed about students' knowledge of their own 3 components of learning. This can be implemented in the clinical education module, for instance, with respect to how to assess and promote patient motivation. Students can state their understanding about patient motivation, what factors affect patient motivation, and how PTs can promote it. During the clinical internship, PTs apply what they stated in their writing, and then during or after returning from the clinical internship, they reflect either in writing or through discussion on their previous understanding, application, and deepened understanding of patient motivation and how it can be promoted.

Chapter Summary

This chapter began with a discussion of the findings from this study with the relevant literature for each factor that PTs believed was influential for successful patient outcomes and influential for the PTs' belief formation.

Limitations of this study warranted further research needs. Future research directions were described as a continuation of further hypothesis building, secondary analysis, and the testing of hypotheses derived from this study. Then, a post hoc analysis was presented with special focus on the plasticity of the PTs beliefs found in this study's results. The selective codes, understanding, applying, and reflecting, and the potential relationship among them with the PTs' beliefs about successful patient outcomes, were drawn as Figure 7. Nine themes from this post hoc analysis were described and summarized in Table 21. This exploratory qualitative research initiated a grounded theory of PTs' beliefs about successful patient outcomes. The first hypothesis was depicted in a continuous spiral model (Figure 8), which consists of three constructs—understanding, applying, and reflecting—that influence the PTs' beliefs about successful patient outcomes. The second hypothesis derived from the study results was: the more reflective a PT becomes, the higher the preferred level of outcome analysis along a disablement model. In other words, one becomes more holistic in the view of successful patient outcomes. For each hypothesis, specific hypothesis testing strategy was described as a part of future research.

CHAPTER 6

RECOMMENDATIONS AND CONCLUSION

Recommendations from the Study

Although theorization of PTs' beliefs about successful patient outcomes will continue beyond this exploratory study, the usefulness of both this study's descriptive results and the hypotheses derived from them are plentiful. In an increasingly productivity-conscious health care system as well as an academic environment, the results of this study may provide a source for reflection with rich implicit knowledge that PTs possess that may not have been examined in-depth before. The following recommendations are specific applications of this study's findings for physical therapy clinicians and educators.

Physical Therapy Clinicians

1. PTs should develop a systematic assessment and intervention for improving their patients'/clients' motivation. There are no objective measures available for assessment of patient motivation level. Without an objectively measurable assessment tools, we are not able to measure the effectiveness of the interventions PTs provide in order to improve patient motivation. One of the strategies would be to start documenting the patient's motivation level in descriptive terms in addition to widely used items, such as the patient's learning needs and abilities. The assessment form can list potentially modifiable factors associated with poor motivation. The list can include signs of depression, lack of one's own goals, new diagnosis of life-threatening diseases, and visible disagreement with the PT's recommendations. Then, the PT documents specific interventions used to promote patient motivation, such as referring the patient to a psychiatrist, gaining information from the parents about how to motivate their child, or explaining the adverse consequences of not participating in exercise, such as severe deformity among patients with burns. The more explicit the PTs can be about their interactive interventions with the patient, the better the understanding of how PTs are impacting their patient's motivation. Furthermore, explicating the specific factors associated with poor motivation may reduce the PT's chance to form a bias associated with certain patient characteristics, such as patients under worker's compensation or with a certain ethnicity.

2. PTs should also consider ways to maximize their patients'/clients' family involvement in the therapeutic process. At an inpatient care setting, working family members may have no other choice than to visit the patient in the evening when PTs have already left for the day. A small card indicating, "Sorry that we missed you," with the PT's name, contact information, and a brief explanation of what interventions the PT is providing, would facilitate the communication between the family members and the PT. If the patient does not have any family members, PTs must remember to ask if there are any friends or neighbors who might be willing to be involved in the care of the patient. In addition, when the PT observes family members who tend to dissuade the patient from participating in PT sessions, the PT can ask about their needs and determine any referrals for other services that are beneficial for the family. For example, the PT can have the patient’s family consult home care agencies or patient support groups to learn about various services and support that the patient may benefit from receiving.

3. PTs should consider that the PTs’ beliefs about successful patient outcomes are changeable, and those beliefs can be influenced by their learning in the clinical practice and interactions among coworkers. Based on this study results, novice PTs may not have changed their beliefs since graduating from their entry-level PT program, and thus they would benefit from exchanging their views with colleagues with diverse ranges of clinical experiences who have robust changes in their beliefs over time. As in the literature, the individual’s beliefs can affect their decision making as well as their approach toward professional growth; therefore, the professional conferences and continuing education courses could provide not only new skills and knowledge but also opportunities for calibration or reassessment of one’s own beliefs, particularly for those novice PTs who do not have colleagues to share their beliefs on a regular basis.

4. PTs may benefit from documenting and sharing their own qualitative outcome assessment in addition to commonly used outcome tools. Qualitative outcome assessment offer valuable descriptive information about complex patient condition, such as gait, posture, and fatigue. In addition, each PT’s own qualitative outcome assessment can contribute to formulating hypotheses with respect to facilitating as well as interfering factors with patient outcomes. In other words, while commonly available outcome tools aim to measure an impairment, function, disability, patient satisfaction, or one’s quality of life, the PT’s qualitative assessment is written based on the assumption that the actual PT outcome is multifactorial and interactive in nature. The gap between what they believe effective and the actual outcome would provide additional opportunities to reflect on their own practice, and thus hypotheses about their interventions can be modified. This constant modification of hypotheses would be beneficial, particularly for PTs who may use those approaches that may not have yet been supported by research evidence or clinical guidelines.

5. Clinical administrators and managers of physical medicine and rehabilitation departments should offer group discussion sessions with a successful or unsuccessful case presentation by the staff member. Using informal discussion sessions, staff members' beliefs about patient outcomes can be exchanged in a supportive environment. They would also aid each other in assessing the staff members' metacognitive ability, such as questioning one's own effectiveness in particular interventions or assessment of the patient's family/home environment. The PTs' patient care notes can be used as a point of discussion in order to share an exemplary documentation as well as visible signs of effective teamwork among an interdisciplinary team. Therefore, discussion should ideally involve all disciplines of the rehabilitation team: occupational therapists, PTs, speech language pathologists, recreational therapists, psychologists, physiatrists, and nurses. This recommendation is based on the evidence that artifacts (patient care notes) examined in this study revealed the variability in the level of team interactions across different episodes of care. Sharing information during the discussion session can be followed by self-evaluation of professional growth by assessing the level of reflection by asking oneself, "How do I define successful patient outcomes?"

Physical Therapy Educators

1. Entry-level physical therapy educators must address the strategies to develop students' abilities to assess and intervene to promote patient motivation in order to facilitate successful patient outcomes. It may be beneficial for a systematic review of the curriculum so that a patient's psychosocial issues are integrated in all four clinical systems instructions. To learn how to observe diverse levels of motivation that the patient exhibits and appropriate strategies for PTs to promote patient motivation, the use of standard patients who play the role of motivated or unmotivated patients or videos may be useful for students who have not started their clinical internship. It will be the students' responsibility to practice various interactive strategies in the actual clinical context during their internship as well as keeping a reflective journal; however, a supportive discussion session immediately after each internship would facilitate learning through sharing their clinical experience among classmates. The students' self-assessment must continue throughout the curriculum to prepare themselves to become more reflective practitioners, through which the student will maximize their clinical experience as well as academic education as influences for their belief formation. To promote their self-assessment ability, each course can incorporate student self-assessment as a part of the grading scheme.

2. It is also important to address the family/social support of patients/clients as a facilitating factor for successful patient outcomes in entry-level physical therapy education. Various types of family/social support systems may be introduced within the modules of the cultural awareness and cultural competency aspect of the curriculum, as well as in pediatrics and geriatrics. This strategy is based on the results of this study which indicated that culturally specific expectations appear to exist among the families of individuals with Hispanic ethnicity. The family/social support become most critical for children who are dependent on their parents as well as the older adults who may not be able to resume their lives at home independently. To integrate the students' understanding of family/social support issues, students should be encouraged to write a reflective journal about their actual interactions with their patients' families during the clinical internships. The internship, then can be followed up by supportive discussion among classmates immediately after returning in order to promote continuous learning beyond their direct clinical exposure.

3. The faculty must be aware that implicit curriculum, such as the emphasis on competencies or a certain view of professional growth, may influence how students develop themselves professionally. In this study, novice PTs appeared more competency-conscious than experienced PTs. Novice PTs' underlying beliefs in which one must be able to handle any situation by oneself may delay the PTs' seeking interdisciplinary or other team member's involvement. Although the entry-level education can not be the sole influence, it is beneficial for educators to be aware that the emphasis placed on competencies may influence how novice PTs believe and practice in the clinical setting.

With respect to professional growth, how educators portray PT experts may influence how students attempt to develop themselves professionally. It may be beneficial to promote the view of adaptive expert rather than routine expert in order to promote life-long learning in the constantly changing health care environment. An adaptive expert's qualities were consistent with the expert characteristics presented by Jensen et al. (1999), specifically the PT being flexible, able to improvise, and willing to continue to learn.

Conclusion

This exploratory qualitative research began with the initial conceptual framework in chapter 1 (see Figure 1) aiming to examine the nature of PTs' beliefs about successful patient outcomes. An in-depth literature review resulted in the revised conceptual framework of PTs' beliefs about successful patient outcomes and influencing factors in chapter 2 (Figure 2), which served as a guide to initiate data collection and data analyses.

A qualitative research method with a grounded theory approach was selected based on the research question (chapter 3). The method of data collection, to optimize methodological rigor, and the method of data analyses were described. Data collection tools and the data analysis process were depicted in Figure 3. Schematic representation of coding and theme emergence were drawn in Figure 4. Furthermore, modifications to the planned procedures and methodological issues related to coding, such as the selection of a unit of analysis and intercoder agreement, were described.

Thirteen PTs (see Tables 1, 2, 3, & 4) participated and provided rich descriptive data through in-depth interviews, artifacts, and demographic data (chapter 4). Among the participants, six were novice PTs with 3 years or less clinical experience, and seven were experienced PTs with 7 years or more of clinical experience. Data analyses involved coding of the data and writing the interviewee summary for each participant through which various themes were emerged. Those themes were reported in the narrative composite format for each group of novice and experienced PTs. Each narrative composite was organized into four conceptual components, and for each conceptual component, themes were summarized in table format (see Tables 9 -12; 13- 16). Findings in each group of novice and experienced PTs' beliefs about successful patient outcomes and main factors influencing their beliefs were summarized, and a revised conceptual framework for each group was drawn (see Figures 5 & 6). Comparative analyses of themes that emerged from both novice and experienced PTs were summarized in Tables 17 - 20. The findings for 3 specific research questions can be summarized as follows.

Specific research question 1: Novice PTs' beliefs about what facilitates successful patient outcomes were patient motivation, patient's medical status/learning abilities, and family support, whereas experienced PTs addressed patient motivation, the PT-patient relationship, and the PT's clinical skills and knowledge. The main difference between the groups was where and how much responsibility the participants placed on their patients to achieve successful outcomes. The novices appeared to emphasize their patients' own responsibility to be motivated, whereas experienced PTs appeared to share the responsibility collaboratively through various patient-PT interactive strategies.

Specific research question 2: Novice PTs' beliefs about what interfered with successful patient outcomes were lack of patient motivation, poor medical status/learning abilities, and a lack of access to health care, whereas experienced PTs discussed a lack of patient motivation, poor medical status/learning abilities, and a lack of family support.

Specific research question 3: Both clinical and personal experiences were perceived as main influential factors for the participants' belief formation. Novice PTs' main influencing factors for their belief formation were their learning in the clinical context, particularly during their clinical internship, and current learning through colleagues at work. Novice PTs reported their family member's illness, family values, and other work experience had influence on their beliefs. Experienced PTs also perceived their learning in the clinical context as a primary influence for their belief formation, and they valued sharing their knowledge, skills, and values with others. Experienced PTs reported that their family member's illness, the participants' own upbringing, and other experience had influenced their beliefs about successful patient outcomes.

All seven experienced PTs reported that their conceptualization of successful patient outcomes has changed over time, whereas novice PTs' degrees of belief change varied. Novice PTs' level of outcomes was function, while experienced PTs appeared more holistic by focusing on bringing the patient back to the patient's self or help regaining the patient's own quality of life.

Future research directions began with the potential to further strengthen methodological rigors through researcher triangulation or replication of the study with additional data sources. Research directions were described in the continuation of hypothesis building and secondary analysis potentials. Further hypothesis building was discussed through theoretical sampling to determine if the findings of this study were practice or site dependent and if there are any specific ethnicity or other cultural beliefs specific to the profession of physical therapy. Secondary data analyses can also be considered for further discovery about the PTs beliefs.

In addition, by focusing on the plasticity of beliefs that were identified in all 7 experienced PTs and the varied degree of changes among novice PTs, a post hoc analysis using selective coding was described (see Figure 7). Nine themes emerged based on the three selective codes, PTs' understanding, applying, and reflecting (Table 21). Based on the descriptive results and the interpretation through the post hoc analysis, the spiral model was drawn (see Figure 8). This spiral model, with further refinement, may have potential for application with other health care professions, patients, education, and research. Specific hypotheses generated from the post hoc analysis were: 1) the PTs' understanding, applying, and reflecting will influence their beliefs about successful patient outcomes; and 2) more reflective PTs would prefer a higher level of analysis of the outcome in the disablement (ablement) model. Their specific hypothesis testing approaches were discussed.

Finally, the specific recommendations from this study were discussed for physical therapy clinicians and educators. Each recommendation has at least one strategy as an immediate application and a potential benefit.

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APPENDIX
A. AUDIT TRAIL

	Audit item	**Audit Date**	**Auditor(s)**
1	**Informed Consent:** All 13 informed consent are signed and dated both by the participants and the investigator.		
2	**Demographic Data Form:** All 13 hand filled demographic data forms are dated and demonstrating authenticity.		
3	**Resume:** All 13 resume are dated and demonstrating authenticity.		
4	**Interview Schedule:** All interviews occurred as they are recorded on the transcription by verifying with the corresponding field notes, the data collection log, and the research log.		
5	**Transcription:** Recorded interview was listened for the authenticity check, and the inaudible sections of the transcription are confirmed as inaudible by one auditor other than the transcriptionist.		
6	**Factor Sort:** Dated, hand written factor sort originals are authentic and verified by the research log.		
7	**Reflective Memo:** Reflective memo is uploaded periodically onto the website. Each entry is dated and demonstrating authenticity.		
8	**Open Coding:** Each revision of open coding made available to all dissertation committee members on the web. When and how the categories were derived can be verified by the web document and the corresponding reflective memo entry.		
9	**Inter-rater Reliability (open code):** One qualitative researcher will code the interview data using the open code definition table.		
10	**Artifact (Patient care note, personal writing):** The field note regarding the artifact collection will be dated and demonstrating authenticity.		
11	**Axial Coding:** Same as the #8.		
12	**Member Check:** Each participant receives their interviewee summary to read. Receive their initials on the member check sheet.		
13	**Emergence of the Themes:** Same as the #8.		
14	**Peer Examination:** The dissertation committee will scan the raw data and check the feasibility of the results. (Merriam 2002)		

APPENDIX
B. PLANNED INTERVIEW QUESTIONS

Research Questions

1. What factors do physical therapists believe facilitate successful patient outcomes?
    1.1. Is there a difference between novice and experienced clinicians?

Component of C.F.	Corresponding Interview Questions
Intended Successful Patient Outcomes	Successful patient outcomes **<Exemplar>** 1. Can you recall a most memorable case with a successful patient outcome during the last 2 months? 2. Could you describe the patient? 3. Could you tell me how you handled the entire episode of care? 4. What did you learn from this case? **<Without Exemplar>** 1. How do you define "successful patient outcomes" today? 2. Has this definition changed over time in your career? If so, what influenced you to change it? If puzzled, use resume sort items to stimulate reflection
PTs Beliefs about What Facilitates Successful Patient Outcomes • Patient's own resource ○ Patient motivation ▪ Patient-PT relations ▪ Humanistic skills ○ Empathy ○ Caring • Therapeutic touch • PT's ability to analyze the patient's problem(s) • Procedural interventions	What facilitates successful patient outcomes 1. Tell me what you think contributed to the success in this case. Could you tell me more about ______? Could you clarify what you mean by _______? Does _____ apply to other patient cases? Why? Why not? 2. If the patient was __________(pick up the opposite characteristics from the description), would it be any different? Examples: age, sex, severity, diagnosis, mental status, personality, insurance type, referring doctor **<Factor sort>** Please list 5 or more important factors for successful patient outcomes. (paper given) Could you rank them from 1 to 5, with 1 being the most important? Could you elaborate on each item? Could you give an example?

Research Questions

2. What factors interfere with physical therapists' ability to facilitate successful patient outcomes?
    2.1. Is there a difference between novice and experienced clinicians?

Component of C.F.	Corresponding Interview Questions
PTs' beliefs about factors that interfere with PTs' ability to achieve successful patient outcomes • Time shortage • Staffing issues • Facility limitation • Reimbursement problems • Value discrepancies between patient and clinician	Unsuccessful patient outcomes 1. Can you recall a case with an unsuccessful patient outcome during the last 2 months? 2. Could you describe the patient? 3. Could you tell me how you handled the entire episode of care? 4. Tell me what you think interfered with your ability to achieve a successful patient outcome. Could you tell me more about _______? Could you clarify what you mean by ________? Does ______ apply to other patient cases? Why? Why not? 5. If the patient was __________(pick up the opposite characteristics from the description), would it be any different? Examples: age, sex, severity, diagnosis, mental status, personality, insurance type, referring doctor **<Factor sort>** Please list 5 or more important factors that may interfere with successful patient outcomes. (paper given) Could you rank them from 1 to 5, with the most important being 1? Could you elaborate on each item? Could you give an example?

Research Questions

3. What factors influenced forming the physical therapists' beliefs?
    3.1. Is there a difference between novice and experienced clinicians?

Component of C.F.	**Corresponding Interview Questions**
Professional Knowledge • Education • Length of clinical experience • Specialization • Research **Personal Knowledge** • Personal Philosophy • Culture • Self illness • Family values /experience	Formation of physical therapists' beliefs 1. What do you think influenced your beliefs about what facilitates successful patient outcomes? Who? Where? How? Have your beliefs changed over time in your career? 2. Have you ever thought that your beliefs are unique and different from, or the same as other physical therapists you work with? Why do you think so? 3. Are there any specific situations where your beliefs are different from or the same as your colleagues' in the facility, regarding what facilitates successful patient outcomes? If so, can you describe it further? **<Resume sort>** will aid Q1 & 2

Planned Interview Questions above will be used as prompts.

Closing question: Is there anything else you would like to tell me?

APPENDIX
C. DEOMOGRAPHIC DATA FORM

Please select the most appropriate category that describes yourself.

Current Primary Work

Type: Acute care hospital Hospital based outpatient
Inpatient rehab hospital Skilled nursing facility
Home care agency Health and wellness facility
Status: Full time Part time Per diem
Title: Staff Supervisory___________________________
If you are in a supervisory position, how many staff members do you supervise?
1-5 6-10 11-15 16-20 >20
How long have you been working at your current work place?_______________

Other Work Experiences (Please write in the number of months only if less than 1 year.)

Check all that apply and fill in the years of experience at each type of facility.
Type: ___yrs__mo Acute care hospital ___yrs__mo Hospital based outpatient
___yrs__mo Private practice (OP) ___yrs__mo Skilled nursing facility
___yrs__mo Home care agency ___yrs__mo School system
___yrs__mo Inpatient rehab hospital ___yrs__mo Health and wellness facility
Total years of work experience ____yrs__mo

Education

Entry level PT: Baccalaureate Certificate Master's
Doctorate Other______________________________
Highest Earned Academic Degree:
Baccalaureate Master's Doctorate in PT Other Doctorate
Other____
APTA Certified Specialist:
Cardiopulmonary Electrophysiology Geriatric Neurology
Orthopedic Pediatric Sports

Other Certifications: Hand Therapy McKenzie
Manual therapy Massage therapy CLT-LANA
NDT ACLS EMT
Acupuncturist ACSM Program Director ACSM Exercise Specialist
ACSM Fitness Leader ACSM Personal Trainer
APTA Credentialed CI APTA CI Trainer

Others____

Injury/Illness Experience

Have you ever sustained an injury that required medical attention? yes no
Have you ever received physical therapy for your illness/injury? yes no

Caregiving Experience

Have you ever taken care of family or friends who suffered chronic or severe illness or injury? yes no

Child Rearing Experience

Number of children you have raised or are currently raising:__________
How old are they now?____________________________________

Age/Sex/Ethnicity

Age:	<22	22-25	26-30	
	31-35	36-40	41-45	46-50
	51-55	55-60	61-65	>66
Sex:	male	female		
Marital status:	married	not married	widowed	divorced

Ethnic background that you identify with:

- American Indian or Alaskan natives
- Asian
- African-American or Black (Not of Hispanic origin)
- White (Not of Hispanic origin)
- Hispanic/Latino
- Pacific Islander or Native Hawaiian
- Other_____________________________________

Religious Preference

Protestant Catholic Jewish Other None

Thank you very much for taking the time to fill out this form.

APPENDIX
D. INFORMED CONSENT

Date:

Dear Participant,

I am a physical therapist and a Ph.D. candidate in the Department of Physical Therapy at Temple University. The purpose of my research is to understand physical therapists' beliefs about the factors associated with successful patient outcomes.

Please read the following statements carefully and sign and date as indicated. Thank you for your participation. I truly appreciate the time and effort you have offered for this research.

I will attempt to answer any questions that you might have at any time either by e-mail at sachiko@komagata.net or by phone at 000-000-0000. My advisor can also be reached by phone at 000-000-0000. A brief summary of the results of my research will be available to you upon request.

Sincerely,

Sachiko Komagata, PT	Laurita M. Hack, PT, MBA, PhD, FAPTA
Ph.D. Candidate	Dissertation Advisory Committee Chair

INFORMED CONSENT FORM

Project title: Physical Therapists' Beliefs About What Facilitates Successful Patient Outcomes
Participant's ID#:
IRB Protocol #:
Investigator's name: Sachiko Komagata, PT, Ph.D. Candidate, Department of Physical Therapy, Temple University

(page 1/4)

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1. PURPOSE OF THE STUDY

The purpose of this research study is to investigate physical therapists' beliefs about what facilitates successful patient outcomes. This research is a requirement for the investigator's dissertation research.

2. DESCRIPTION OF THE PROJECT

A. General Research Procedures

I understand that my participation in the above study will require myself to participate in the following data collecting procedures. I am fully aware that I will be required to:

1. **Complete a Demographic Data Form:** The data form is used to identify my age, sex, marital status, ethnicity, religion, education and professional work experience. In addition, I will be asked about my personal experience in caregiving and childrearing. The time required for this task is estimated at 5 minutes.

2. **Provide a Copy of Resume:** I will submit a copy of my resume which includes information about my education, work, and other experiences. The estimated time required for this task is 5 minutes.

3. **Participate in 2 Interviews:** There will be an initial interview session and the follow-up interview session scheduled with approximately a 1 week interval. The interview questions will focus on my beliefs, assumptions, and outcomes of my direct patient care. The time required for each interview varies; however, the estimated interview time is approximately 1 hour each session.

4. **Brief Phone Contacts:** One or two brief phone contacts will be made to confirm the appointment and exchange questions and answers. Electronic mail can be used if I indicate this preference. If I prefer to meet with the investigator to discuss the project at length, it will be arranged accordingly. The estimated time for phone contact would be approximately 5 minutes.

5. **Artifacts:** My patient care notes as well as departmental documents, such as the departmental meeting agenda or minutes, inservice records, and policies and procedures, will be reviewed by the investigator as a part of data collection. I will be asked to assist the investigator in locating the documents. In addition, I will be asked to submit personal writings, such as poems and self reflection, if available. The estimated time for this task would be 5 minutes.

6. **Reviewing the Interviewee Summary:** I will review the interview summary which is written by the investigator based on my interview, artifacts, demographic data form, and resume. The purpose of this review is to check the accuracy of the information. The investigator will contact me in 1 to 2 weeks after the interview summary is mailed to me to solicit any comments. The time required for this review is estimated as 30 minutes.

B. Potential Risks

I am aware that my participation in this study involves no discomfort or harm to me. I also understand that the research procedures will take 1 to 3 hours of my time. I understand that the interview location can be negotiated between the investigator and I to optimize mutual convenience.

C. Benefits

At the end of my participation in this research study and analysis of the information, I understand that I have the opportunity to request the general result of my participation in the study. As a result of participating in the study I may be able to have the opportunity to reflect and learn more about my own physical therapy practice. There will be no monetary compensation; however, the investigator will offer me a small gift certificate as a token of appreciation for my participation.

3. CONFIDENTIALITY STATEMENT

All documents and information pertaining to this research study will be kept confidential in accordance with all appropriate federal, state, and local laws and regulations. I understand that medical records and data generated by the study may be reviewed by Temple University's Institutional Review Board, and the United States Food and Drug Administration (FDA) to assure proper conduct of the study and compliance with federal regulations. I understand that the results of this study may be published. If any data are published, I will not be identified by name.

4. VOLUNTARY PARTICIPATION STATEMENT

I understand that my participation in this study is entirely voluntary, and that refusal to participate will involve no penalty or loss of benefits to me. I may discontinue my participation at any time without penalty or loss of benefits.

5. COMPENSATION STATEMENT

I understand that I will receive no compensation for this study.

6. INSTITUTIONAL CONTACTS

If I have any questions about my rights as a research subject, I may contact the Institutional Review Board Manager, Ruth S. Smith at 215-707-3249.

If I have any questions regarding the study, I may contact the primary investigator, Sachiko Komagata, PT, PhD Cand. at 609-434-1077, or her dissertation advisory committee chair, Laurita M. Hack, PT, MBA, PhD, FAPTA at 215-707-8177.

7. TERMINATION STATEMENT

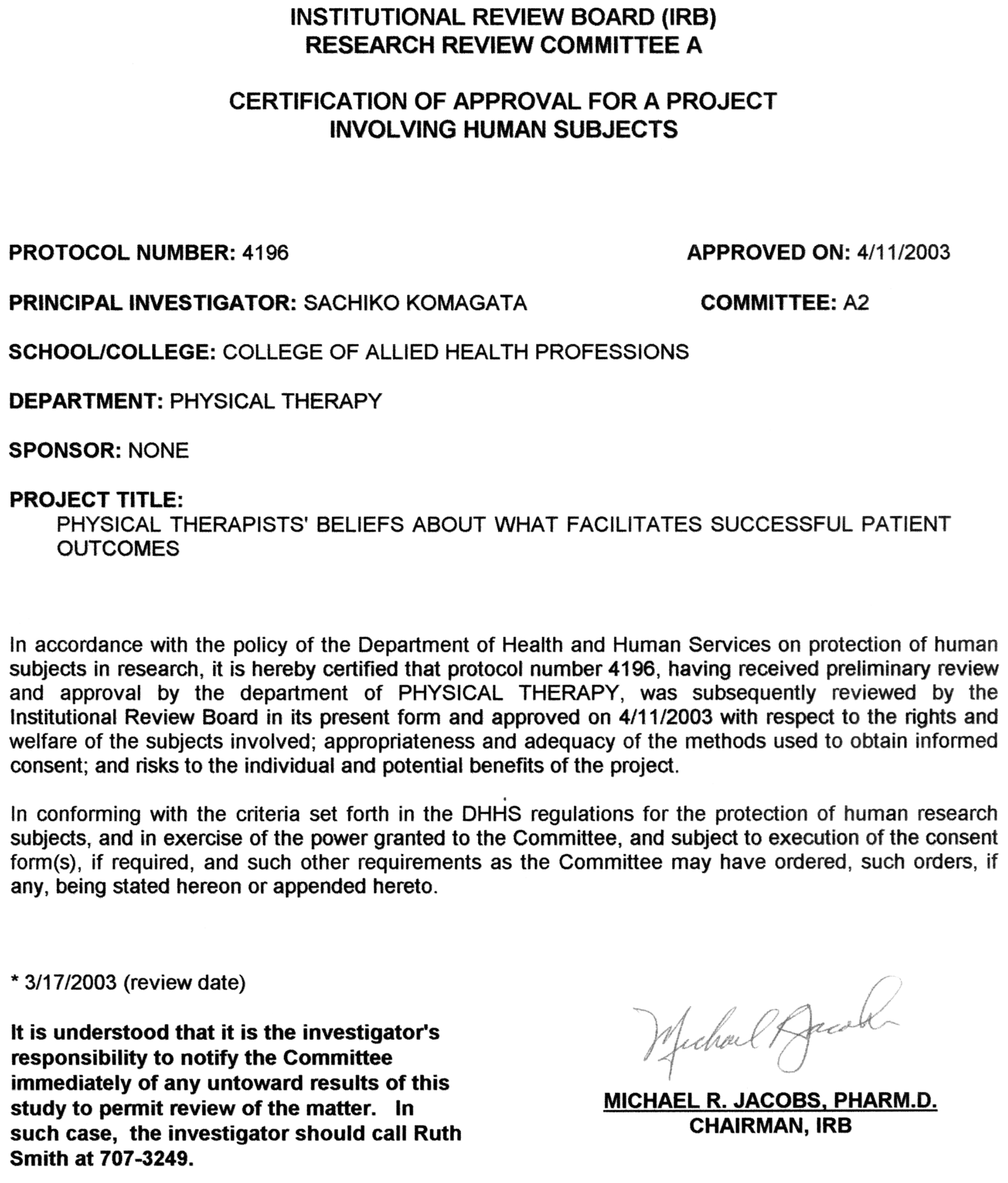
The investigator or the sponsor may terminate my participation in the study without my consent.

8. FINAL STATEMENT AND SIGNATURE

This study has been explained to me, I have read the consent from and I agree to participate. I have been given a copy of this consent form.

______________________________	________________
Participant Signature	**Date**
______________________________	________________
Principal Investigator	**Date**

APPENDIX
E. TEMPLE UNIVERSITY IRB CERTIFICATION



INSTITUTIONAL REVIEW BOARD (IRB)
RESEARCH REVIEW COMMITTEE A

CERTIFICATION OF APPROVAL FOR A PROJECT INVOLVING HUMAN SUBJECTS

PROTOCOL NUMBER: 4196 **APPROVED ON:** 4/11/2003

PRINCIPAL INVESTIGATOR: SACHIKO KOMAGATA **COMMITTEE:** A2

SCHOOL/COLLEGE: COLLEGE OF ALLIED HEALTH PROFESSIONS

DEPARTMENT: PHYSICAL THERAPY

SPONSOR: NONE

PROJECT TITLE:
PHYSICAL THERAPISTS' BELIEFS ABOUT WHAT FACILITATES SUCCESSFUL PATIENT OUTCOMES

In accordance with the policy of the Department of Health and Human Services on protection of human subjects in research, it is hereby certified that protocol number 4196, having received preliminary review and approval by the department of PHYSICAL THERAPY, was subsequently reviewed by the Institutional Review Board in its present form and approved on 4/11/2003 with respect to the rights and welfare of the subjects involved; appropriateness and adequacy of the methods used to obtain informed consent; and risks to the individual and potential benefits of the project.

In conforming with the criteria set forth in the DHHS regulations for the protection of human research subjects, and in exercise of the power granted to the Committee, and subject to execution of the consent form(s), if required, and such other requirements as the Committee may have ordered, such orders, if any, being stated hereon or appended hereto.

* 3/17/2003 (review date)

It is understood that it is the investigator's responsibility to notify the Committee immediately of any untoward results of this study to permit review of the matter. In such case, the investigator should call Ruth Smith at 707-3249.

MICHAEL R. JACOBS, PHARM.D.
CHAIRMAN, IRB

APPENDIX
F. ARTIFACT FIELD NOTE

Patient ID#	**Date:**	**Time:**	**PT:**
Type: Acute care inpatient/Outpatient			
During the interview, this case was identified as successful/ unsuccessful/unknown			
2. Patient's medical/physical status			
Diagnoses	**Admission:**		
	Others:		
Procedures			
Dates	**Admission date**		**Discharge date**
LOS			
PT order			
PT Frequency			

1. **Patient's psychosocial status:**
   - Patient's own goals?
   - Refusal of treatment?
   - Anger/frustration/cry/smile/laugh/

3. **Family/social support**
   - Home environment?
   - Lives alone vs. family?
   - Evidence of visitors?
   - Family's participation in the care plan?

4. **PT's strategies for interaction with patients**
   - Humor/shared laugh/extra time spent for…/touch/active listening
   - Flexibility--trying to give in for refusal, etc
   - Persistence--repeated attempt despite the patient's limitation in participation
   - Cheer/encouragement/emotional support

5. **PT as a teacher**
   - Explanation of procedure/status/consequences/goals
   - Home program (written/verbal)
   - Bed-side signs for instructions (positioning, PROM, etc)
   - Negotiation/selling/promoting desirable behaviors
   - Weekly review of progress with patient/family
   - Reminding the goals to patients

6. **PT's clinical skills and knowledge**
    - PT's disease/dysfunction specific treatment plan/program/evaluation
    - Questioning why something is happening/hypothesizing the cause and treatment results
    - Judging to hold off/push based on clinical situations
    - Specific treatment techniques
    - Awareness of post-op precautions, contraindications
    - Timing and nature of referral to other disciplines (know PT's own limitation)

7. **PT's psychosocial status**
    - PT's happiness/disappointment/frustration/emotion

8. **PT's philosophical approach to patient care**
    - Patient's own goals?
    - PT-patient as a team?
    - Awareness of individual patient characteristics and preferences?

9. **HCP's bias/prejudice re to patient care**
    - Biased expectations or statement regarding obesity/age/culture/language/gender role/placement/prisoners
    - Biased expression on other disciplines or services

10. **HCP teamwork**
    - Coordination of care such as timing of treatment
    - Evidence of discussion/communication among HCP
    - Team conference?
    - Evidence of mismatch of expectation of care from each discipline
    - HCP's view of PT/any signs of appreciation?
    - PT's appreciation of other HCPs?

11. **Health care system's influence**
    - Insurance issues
    - Institutional policies/procedures/priorities with or against PT's effort

12. **PT's view of SPO**
    - Function, independence vs. patient as a biopsychosocial person (what do they want? What do they do at home, etc)

13. **PT's learning in the clinical context**
    - Journal club, rounds?

14. **PT's own continuing learning**
    - Any evidence of PT's continuing his/her education?
    - Any evidence of PT's academic education level or quality?

15. **PT's learning through academic**

16. **PT's own illness/injury experience**
    - Any mention of PT's own illness/injury experience

17. **PT's personal experience**
    - Any mention of PT's personal experience?

APPENDIX
G. OPEN AND AXIAL CODING

#	Name of Open Code	Code Definition
1	Patient's desire to get better	Patient inner drive, desire, wish to return home, return to the higher functional level, attain independence
2	Patient's perception of pain or limitations	Patient's own experience of pain, the response to the pain, and the coping behaviors, not necessarily the same as how clinician perceived it from outside. (Hispanic male tends to have different pain perception from PTs.)
3	PT's sympathy and empathy to patient's status	PT's expression of acknowledgment of patient's status (such as pain, not given a chance to go to rehab, etc). It can be expressed either verbally or by non-verbal way.
4	PT's explanation of procedures	PT's verbal instruction, explanation of what PT is going to do, what to expect
5	Patient's willingness to follow PT's lead	Patient performs what the PT told him/her to do; patient buys-in PT's offer
6	Age proximity between PT and the patient	The closeness and open communication actualized between PT and the patient who are close in their age group.
7	PT's pain management strategies	PT's various techniques to minimize patient's pain being interfering factor for therapy. (e.g., timing of pain medication, moving good side first, warning patient it's going to hurt before it actually happens, let the patient pace on one's own)
8	PT's attempt to gain trusting relationship with the patient	PT utilizing various approaches (humor, cheer, spending extra time talking, etc) to connect with the patient, set a collaborative relationship; "crack them out of the shells"
9	Interdisciplinary teamwork	Health care team's willingness to work toward the same goal; coordination of care; mutual respect to each other's specialty skills and recommendations
10	PT informing patients about consequences of their actions	PT explaining patients what likely to occur with patient's action either positive (doing exercises to reach their goals) or negative (not doing this may lead to pain, disfigurement, impairment, or disability)
11	Achieving patient's own goals	Patient achieving their own goals that they set themselves, they verbalized (e.g. "I want to attend my nephew's Wedding without the use of a wheelchair")
12	Patient's satisfaction with physical therapy process and outcome	Patient's satisfaction, happiness, and contentness with their experience with PT and overall status at the discharge (level of function, independence, setting); patient being thankful, gracious
13	Patient's absolute achievement	Patient becoming fully independent; without any assistive device; full range of motion; full strength;
14	Patient going home and returning to self	Patient going home and returning to the person who he/she was once before hospitalization

#	Name of Open Code	Code Definition
15	PT's recognition of outcome variability	PT recognizing each patient progress differently and not everyone has absolute achievement
16	PT's positive outlook	PT attempting to portray his/her own positive outlook on patients; recognizing patients' accomplishment, perseverance, and efforts
17	Patient's depression	Patient's apathy, depression, lack of interest in what's going on, lack of hope, sense of helplessness, refusal of engaging in therapeutic activities, such as getting out of bed, sitting up in a chair
18	Patient's prior level of function	Patient's prior to admission status (function, activity, dependency, type of assistive device used, type of service one received PTA)
19	PT's astute delivery of information to patient and/or family	How PT is presenting the information to the patient and/or family. (e.g. benefits of following PT's lead; step-by-step toward mutual goals; disposition alternatives; services patient may benefit from. PT being influential, persuasive, and informative.
20	Patient's co-morbidities	Patient co-morbidities are the disease, dysfunction not directly related to the primary reason why the patient is for therapy but affect the outcomes (i.e. diabetes, heart disease, cancer, HTN, PVD, amputee…)
21	Patient's fear	Patient's concerns for safety, helplessness for being dependent of caretakers, fear of not knowing what to expect
22	PT's willingness to accept patient's request, values, and needs	PT's willingness to accept patient's request such as refusal, limitation, complaints, preferences. Also be sensitive to differences in values, beliefs, needs, and goals based on differences in culture, socioeconomic status, etc.
23	Gender role	Patients tend to follow social norm, such as gender role (e.g.: Women take care of family regardless of their illness. Hispanic males will be taken care at home by women.)
24	PT's willingness to resolve patient's problems	PT's willingness to understand what the patient is really complaining about and to find the cause of the problems the patient has (fear, limitations, pain, language problem, etc) and attempt to solve problems.
25	PT's active search for better care	PT's search for better care includes looking up on the references, consulting colleagues, other healthcare professionals, and mentors, or referring to other disciplines to seek immediate improvement in the quality of patient care during the episode of care
26	PT's satisfaction with what she/he does through patient care experience	PT's satisfaction, sense of accomplishment, pride, joy, excitement in what she/he does through patient care experience

#	Name of Open Code	Code Definition
27	Patient regaining the quality of life back	Patient regaining the quality of life back and happy with it regardless of how therapist feels or thinks the patient can achieve. "It is more on the eyes of the patient than me"
28	Sharing successful experience with a subgroup of the entire healthcare team	Successful outcome is recognized and shared by a specific group of individuals (e.g. PT colleagues, patient, and family)
29	PT's persuasive communication with other healthcare professionals	PT's persuasive communication enables his/her recommendations and suggestions understood and act upon. The language must be at the level of the recipient and be succinct but polite to be persuasive.
30	Family support	Patient's family, friends, or any significant others who may assist physically, mentally, spiritually whenever the patient needs them; lack of family support may result in nursing home placement
31	Dedication	PT's willingness and eagerness to help patients at their best possible level; improve PT's quality by various continuing education activities and or teaching; work beyond work hours; making contacts and phone calling to get things done;
32	Patient's age	Patient's age affect the way PT treat them (e.g. lower intensity treating older adults; "I'm trying everything in my power because she is so young…") "…younger patient may have a hard time accepting it…" "A lot of times, when they are older, they might be more willing to accept help from other people…"
33	PT's narrow scope of patient outcomes	Patient is discharged home and able to walk ("I had a tunnel vision") without any concerns about family support, communication, insurance, case management, etc
34	PT's global view on patient outcomes	PT looks at all the various aspects of patient care and outcomes including family support, communication, insurance, case management, etc
35	Severity of disease/pathology	Patient's primary disease can be fatal, terminal, chronic, and irreversible vs. reversible It may directly impact on the PT interventions and outcomes
36	Nursing home placement	Nursing home placement as non-optimal disposition, undesirable; nursing home placement debilitates patient further, quality of life maybe lower than being at one's own home
37	Patient's decreased cognition	Patient's decreased cognition can affect the outcome via: changing the family's perception of the patient, inability to learn, carry over skills practiced in therapy in outside world; following commands to participate; safety concerns

#	Name of Open Code	Code Definition
38	Insurance limiting optimal health care access	Insurance plans may limit the patient's access to the optimal health care (e.g. TBI--unable to receive cognitive rehab, patient with burn--going to NovaCare that does not have burn care unit)
39	PT's frustration over uncontrollable obstacles	Despite PT's effort, some obstacles remain as a source of frustration (e.g. Insurance coverage denial)
40	Non-verbal interactions	PT's use of body language, tone of voice, eye contact, etc to maximize the interaction
41	Patient's lack of motivation	Patient's lack of motivation to participate and progress in physical therapy sessions despite the PT's efforts to promote it
42	PT's emotional cost	PT feels drained, burnout, loses energy to continue to work with his/her patient due to various reasons (e.g. the relationship PT-patient forms, frustration over obstacles)
43	Patient's functional improvement	Patient's functional gain includes ability to walk with less need of assistance, return to PTA level of functions (ambulation, transfers, ADLs)
44	PT being more aware of individual differences	PT being more aware of each and every patient's differences in their needs, goals, desires, values, and how they see themselves.
45	Patient's ability to see what's important to them	Patient's ability to see what's important to them, what they want to do and to determine goals of therapy
46	Persistence	PT's ability to stick with the plan of care and carry it through despite the existence of various obstacles; never give up; negotiating with insurance company or other HCPs to accomplish the goal
47	Patient's compliance	Patient's eagerness to learn and perform various care activities including exercises, self-massage, skin care, and self-bandaging
48	Flexibility	PT's willingness to accept and adapt to any unexpected changes, such as cancellation, work outside the regular work hours to accommodate patient care; accept patient's occasional refusal
49	Patient's ability to learn	Patient is able to acquire new skills, specific task or function
50	Patient's anger	Patient being angry due to various factors (e.g. "due to the position they are currently in")
51	Patient-PT teamwork	Patient and PT take an equal status and work toward the mutual goals as a team
52	Patient's ability to express their needs to various health care professionals	Patient's ability to express their needs to nursing or any other health care workers (e.g. request nurses to assist them to get out of bed)
53	Patient's disposition	Not only family and friends contribution but also for people live alone to have 24-hr supervision for patient's safety upon returning home

#	Name of Open Code	Code Definition
54	PT's clinical skills & knowledge	PT's clinical skills and knowledge that facilitate or interfere successful patient outcomes (e.g. precautions s/p flap surgery--no other team members mentioned to the patient) Knowledge also include the domain outside PT, such as various home services available to patients (e.g. meals on wheels)
55	Other HCP's influence on patient's expectation	Patients forming expectations, perceptions of certain PT procedures and outcomes based on what other HCPs tell them (e.g. MD writing prescription for whirlpool for venous ulcer)
56	Specific patient education	As oppose to general health education, the PT instruction and/or education given with very specific parameters; fail-safe way to avoid misunderstanding (e.g. "wash with soap and water" instead of just say "wash")
57	Clinical Experience as a main source of information and inspiration	PT's use of clinical experience as a main source of new information as well as inspiration for further professional growth
58	Networking through conferences	Networking through conferences to exchange new techniques, new ideas regarding patient care beyond the facility and the region where PT works
59	Territorial workings within the specialty	Wound care is done by various HCPs depending on where and how the wound is formed (e.g. vascular, stoma, burn, plastic, trauma) within a single institution
60	Nutrition	Nutrition as a factor for wound healing
61	Use of reward	PT uses reward to motivate patients or engage them in therapeutic activities (kids as well as adults)

Name of Axial Code	Code Definition and Examples
1. **Patient's psychosocial status**	**Patient's psychosocial status indicates patient's motivation, apathy, various emotional status, and the perceived reality.** • **Patient inner drive, motivation, desire**, (e.g. patient wishing to return home, return to the higher functional level, attain independence; patient's willingness to follow PT's lead or buy into PT's approach in the process; patient's ability to see what's important to them, what they want to do and to determine goals of therapy; patient's eagerness to learn and perform various care activities including exercises, self-massage, skin care, and self-bandaging) • **Patient's apathy, depression**, lack of interest in what's going on, lack of hope, sense of helplessness, refusal of engaging in therapeutic activities, such as getting out of bed, sitting up in a chair; patient imposing self-limitations to various activities (e.g. "I can't do this…) • **Patient emotional status such as happiness, anger, fear/concerns, appreciation through perceived reality** (e.g. "due to the position they are currently in"; fear for safety, helplessness for being dependent of caretakers, fear of not knowing what to expect; perceived pain level or progress in therapy)
2. **Patient's medical status**	**Patient's medical status includes co-morbidities, primary disease/illness, cognition/learning ability, nutrition status, and pre-admission status** • **Patient's co-morbidities** are the disease, dysfunction not directly related to the primary reason why the patient is for therapy but affect the outcomes (i.e. diabetes, heart disease, cancer, HTN, PVD, amputee…) • **Patient's primary disease/illness** can be fatal, terminal, chronic, and irreversible vs. reversible • **Patient's cognition/learning ability** can affect the outcome via: changing the family's perception of the patient, inability to learn, carry over skills practiced in therapy in outside world; following commands to participate; safety concerns • **Nutrition** as a factor for wound healing • **Patient's pre-admission status**: functional status, assistive device use, assistance needs PTA

Name of Axial Code	Code Definition and Examples
3. Family/social support	**Family/social support are caregivers other than non-health care professionals, financial, and social support that enhance or hinder the patient's recovery before, during, and after hospitalization.** • **Patient's family, friends, or any significant others** who may assist physically, mentally, spiritually whenever the patient needs them; lack of family support may result in nursing home placement; over supporting may lead to promotion of dependency; can be a predictive factor for successful patient outcome • **Home environment** (e.g. ranch, stairs, ramp) • **Patient resources** (e.g. money, car, home heating, insurance for follow-up care)
4. PT's strategies for interacting with patients	**PT's strategies for interacting with patients are various interactive strategies that promote patient's motivation, rapport, and trusting therapeutic relationship between patient and PT.** • **Persistence**: PT's ability to stick with the plan of care and carry it through despite the existence of various obstacles; never give up; negotiating with insurance company or other HCPs to accomplish the goal • **Flexibility**: PT's willingness to accept and adapt to any unexpected changes, such as cancellation, work outside the regular work hours to accommodate patient care; accept patient's occasional refusal; to take extra time for the patient • **Humor, joking,** light hearted way to ease pain, put a smile on patient's face, to click • **Rewards** to motivate patients or engage them in therapeutic activities (children as well as adults) • **Cheer**, spending extra time talking, etc) to connect with the patient, set a collaborative relationship; "crack them out of the shells", build trusting relationship "relationship you (PT) build with your patient can go a long way" (Aji1) • **Nonverbal cues**: PT's use of body language, tone of voice, eye contact, etc to maximize the interaction • **Empathy:** PT's expression of acknowledgment of patient's status (such as pain, not given a chance to go to rehab, etc). It can be expressed either verbally or by non-verbal way. • **PT's positive outlook**: PT attempting to portray his/her own positive outlook on patients; recognizing patients' accomplishment, perseverance, and efforts • **Listen carefully** to understand where the patient is coming from

Name of Axial Code	Code Definition and Examples
5. PT as a teacher	**PT playing a role of a teacher for patients, students, or other HCPs.** • **Astute information delivery**: How PT is presenting the information to the patient and/or family. (e.g. benefits of following PT's lead; what PT is going to do, what to expect; step-by-step toward mutual goals; disposition alternatives; services patient may benefit from.) • **PT's persuasive communication** with other healthcare professionals; PT being influential, persuasive, and informative
6. PT's clinical skills and knowledge	**PT's clinical skills and knowledge that are in use during patient care** • **Specific precautions, equipment operation** (e.g. precautions s/p flap surgery--no other team members mentioned to the patient) • **Pain management strategies**: PT's various techniques to minimize patient's pain being interfering factor for therapy. (e.g., timing of pain medication, moving good side first, warning patient it's going to hurt before it actually happens, let the patient pace on one's own) • **Awareness of PT's own limitations/boundaries**: PT knows when to refer to other HCPs and services or seek help (e.g. meals on wheels; detecting patient's depression; detecting medical complications through observation)
7. PT's own psychosocial status	**PT's own psycho emotional response to the perceived reality of clinical practice.** • **Emotional fatigue**: PT feels drained, burnout, loses energy to continue to work with his/her patient due to various reasons (e.g. the relationship PT-patient forms, frustration over obstacles) • **Lack of control**: Despite PT's effort, some health care system obstacles remain as a source of frustration (e.g. Insurance coverage denial) • **Satisfaction**: PT satisfied with the patient progress or outcome. PT may share the excitement with colleagues
8. PT's philosophical approach to patient care	**PT's philosophical approach to patient care underpins the PT's clinical practice. It may not be directly observable but it can dictate PT's practice.** • **Patient first, "Accomplishing for the patient":** PT's role as to assist with what the patient desire to accomplish; patient and PT take an equal status and work toward the mutual goals as a team • **Egoistic approach, "to the patient":** See patient as passive recipient of the PT service; patient gain full range of motion, independence, etc without patient's input; • **All patients are different**: PT is fully aware of the danger of one-fits-for-all, protocolish approach • **"Dedication to the profession" "I want to help people" "PT is like ministry to me":** PT's willingness and eagerness to help patients at their best possible level; "go above and beyond"

Name of Axial Code	**Code Definition and Examples**
9. HCP's bias/prejudice re to patient care	**HCP making decisions based on assumptions they have on a particular group of individuals or a setting** - **Age:** patient's age affect the way PT treat them (e.g. lower intensity treating older adults; "I'm trying everything in my power because she is so young…") "…younger patient may have a hard time accepting it…" "A lot of times, when they are older, they might be more willing to accept help from other people…" : - **Ethnic groups:** Hispanic male don't take pain well - **Gender role**: Patients tend to follow social norm, such as gender role (e.g.: Women take care of family regardless of their illness. Hispanic males will be taken care at home by women.) while PT may consider it undesirable or unsuccessful - **Prisoner/trauma population:** they are not appreciative of PT - **Nursing home placement** as non-optimal disposition, undesirable; nursing home placement debilitates patient further, quality of life in NH maybe lower than being at one's own home - **PT practice setting**: teaching hospital has more learning opportunities than smaller community hospital
10. Health care teamwork	**Health care teamwork is the health care team's willingness to work toward the same goal; coordination of care; mutual respect to each other's specialty skills and recommendations (individual or discipline level)** - **Service specific issues**: Trauma service tends to dictate when the patient should be discharged (limited length of stay in acute care hospital);wound care is done by various HCPs depending on where and how the wound is formed (e.g. vascular, stoma, burn, plastic, trauma) within a single institution - **PT/OT work in tandem, nursing takes IV off for PT, coordinate time with PT**

Name of Axial Code	Code Definition and Examples
11. Health care system's influence	**Health care system's both positive and negative influence on patient outcomes include national and regional health care payer rules/regulations, and institutional values organizational issues beyond individual HCP or particular HCP discipline.** • **Insurance policies** may limit the patient's access to the optimal health care (e.g. TBI--unable to receive cognitive rehab, patient with burn--going to NovaCare that does not have burn care unit); people live alone to have 24-hr supervision for patient's safety upon returning home • **Institutional values** (hospital policy/philosophy/priorities) focus on "efficiency" • **HCP's support/understanding of PT service (or lack of):** PT service is valued within the organization; PT service placed in the lower priority among other medical services • **Consistency of care**: when so many HCP workers rotate through, the consistency of care may not be achieved (e.g. residency, nursing students, PT, etc) • **Spanish speaking floor**: beneficial for Spanish speaking patients (rehab patient can't go to that floor due to hospital regulations • **"Fall through the crack"** patient may get lost in the system
12. PT's view of successful patient outcomes	**PT's understanding of their definition of successful patient outcomes** • **"Tunnel vision"** Focus on patient's function only (e.g. patient is discharged home and able to walk) without being aware of other factors, such as family support, communication, insurance, case management, etc • **Global view**: PT's view of SPO not only focus on functional status but also the various aspects of patient care and outcomes including family support, communication, insurance, case management; global view can help minimize the incident of "fall-through-the-crack" • **Patient's quality of life**: Patient regaining the sense of him/herself once before hospitalization: patient achieving the prior to admission status (function, activity, dependency, type of assistive device used, type of service one received PTA): Patient regaining the quality of life back and happy with it regardless of how therapist feels or thinks the patient can achieve. "It is more on the eyes of the patient than me" • **Patient regain independence**: PT's focus on patient becoming independent in functional activities; independence can be achieved via sending the patient to rehabilitation unit

Name of Axial Code	Code Definition and Examples
13. PT's learning in the clinical context	**PT's learning in the clinical context means PT gaining new information or insight through direct patient care, discussion with colleagues, mentoring, administrative aspects, and exposure to the clinical setting itself.** • **Clinical Experience as a main source of information and inspiration**: PT's use of clinical experience as a main source of new information as well as inspiration for further professional growth; consulting coworkers; mentorship within the PT department; learning by doing; repeated exposure to the similar diagnosis; self reflection "asking why this is happening?", patient as a source of knowledge; learn from mistakes • **Attending journal club, rounds, family conference** at the job site • **Exposure to wider diagnoses groups**: from a small community hospital to trauma center gave PT more variety in diagnoses and severity, acuity of the patient condition • **Exposure to PTs with various experience level and strength**: consulting coworkers who has expertise in various areas (*All occurs primarily at the job site as oppose to the code #14 and #15 occur outside the work site)
14. PT's continuing own learning	**PT's continuing own learning occurs outside the clinical worksite and directed by his/her own initiatives for continuing professional growth** • **Reading** journals, books; attending continuing education courses in order to expand knowledge and skills for day to day PT practice • **Attending continuing education courses:** bring the new skills and knowledge back to the clinic • **Networking**: Networking through conferences to exchange new techniques, new ideas regarding patient care beyond the facility and the region where PT works (*the distinctive property of this code from the "in the clinical context" (#13) is this does not involve clinical experience/patient encounter/coworkers and it occurs outside the work site)
15. PT's learning through academic education	**PT's learning through academic education for prerequisite as well as continuous learning opportunity.** • **Entry level education** gives bear minimum basic knowledge and skills while the **advanced degree** is sought for various reasons.
16. PT's own illness/injury experience	**Self or family illness/injury experience that impacts how PT practices** (e.g. family member's MI made a PT not to be afraid of cardiac care; understand what the patient/family may want, how scary they may feel in the hospital, negative experience can't be forgotten easily, etc)
17. PT's personal experience	**PT's personal experience not related to own illness or injury:** Child rearing experience, religious, spiritual practice impacting the PT's priority in life philosophy, way of life, attitudes that are traced back to own family or close friends. (e.g. "pay attention to details from my father," "my mother is a special ed teacher and she always talked about her day at home," "I had no choice but being flexible being the last of five"; discrimination experience as a Catholic growing up influence to be respectful of everyone)

PT: physical therapist, SPO: successful patient outcome, HCP: health care profession

APPENDIX
H. INTERVIEWEE SUMMARIES

Uni: "I'm in charge"

Interview Dates:	8/12/03	8/14/03
Interview Time:	4:05 – 5:10 pm	12:10 – 1:00 pm
Interview Location:	Outpatient treatment booth at Uni's clinical practice site	

Interviewee Characteristics

Uni is in her late 20s and currently works as a Staff Physical Therapist at a large Trauma Level I teaching hospital with a total of 1 month of clinical experience. She states that she has a mentor who provides her feedback and assists with unfamiliar cases. She received her entry-level Doctor of Physical Therapy (DPT) degree from a local university. She had an orthopedic injury experience that required physical therapy. She also had an experience as a caregiver for a family member. Other demographic data indicate that she is Hispanic, not married, and her religion is classified as Catholic (Demo form 8/14/03, Resume 8/14/03, Reflective memo 8/7/03, 8/27/03).

Coding Characteristics

Among 17 axial codes, 12 were used to code both of Uni's interviews. Data triangulation was performed utilizing two in-depth interviews, artifacts, Uni's resume, the demographic data form, field notes, and reflective memos. Despite the researcher's persistent attempts, Uni's patient care notes were not available due to various institutional barriers, such as the notes being held for internal reviews. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

Uni illustrated three major factors for facilitating successful patient outcomes. They were patient motivation, family support, and the patient's prior level of function.

In her most memorable successful case, Uni described her patient as a 28-year-old man who was recovering from multiple gun shot wounds in his arms and abdomen. He was very motivated throughout his hospitalization and was always happy to see his therapist. Uni described her excitement and a sense of accomplishment during her first experience with patient care in the ICU as a new therapist. This sentiment was palpable from her tone of voice, body gestures, and facial expressions (Reflection 8/12/03).

> This was my first patient that I have in the ICUnit [intensive care unit], so … it's always…a challenge…at the beginning, I went with my supervisor,

> and then the next thing, I went by myself, like, I am taking care [of] everything, weight bearing status, talking to the doctor, bringing in the tilt-table…staff coming with me and start what to do. I mean, even the instructions to help me out, kind of feel weird, but also I'm excited. Yeah, I'm in charge. Yeah, I'm going to get him in the tilt-table, I'm going to know more, I mean, I wanted and he wanted it to be today so sounds like… I can do what I want to do. [S]ometimes you can't…a lot of times, you have the control of what you can do. [Uni1:54-58]
>
> But, yeah, I like to have control. I like that power a little bit. This is good, the conference today, physical therapist, if you have a problem, you talk to me, I'm in charge. [Uni1:65-67]

Patient's Psychosocial Status

Uni's description of patient motivation subsumed the patient's compliance and willingness to follow the PT's recommendations, rather than simply the patient's own desire to achieve what he or she wants. Uni explained what patient motivation means in the following excerpt.

> Patient wants to participate in therapy, and be compliant with the exercises and treatment, and be willing to follow instructions, follow recommendations that are given to the patient and getting to therapy to continue with them, too, until goals are met. [Uni1:174]

In her most memorable successful case, Uni observed the patient's high level of motivation. Uni believed that this patient's high level of motivation contributed to the success of this case.

> He was really motivated, like, "Oh, I want to exercise." He is very aware of where he is…how he is progressing, and very conscious about what the doctor told me. He is very care[ful] about his health. Like, "I should be eating" while they had, they were waiting for the doctor, medical order to say they approve that he was not ready for, I can eat, [being] taken care, motivated all this time, when he was…still very functional. [Uni1:71 - 74]
>
> He is always asking when are you coming. "Why you didn't come today at this time?" I was telling him today…"When I came in you were with your doctor that was why." "OK. I want to see you on weekends,"… I am explaining, but he is still like, "I want to see you. I want to be moving." He wants physical therapy. [H]e does any exercises, he sat at the edge of the bed, he picks up his legs, but I said, "OK, you can take a break." But he keeps going. He wants to keep doing things. [Uni1:83 - 90]

Uni stated that her approach would not change in two hypothetical scenarios, such as this patient being much older or in dealing with a Spanish-speaking patient. In both cases, Uni responded that the outcomes and her approach would depend on the patient's motivation level. However, she also cautioned that good motivation alone could not guarantee a successful outcome due to various obstacles, such as poor medical status. A patient's unrealistic expectations could also interfere with a high level of motivation when the therapist failed to guide the patient's progress step by step.

> It's hard on patients...medically you can't progress as quite because they want to do a lot of things but they can't physically [do], no way to stand up, they don't have the power. So that's the hard part. The patient is really motivated, and kind of he is motivated sometimes that motivation… it's a setback because first they have to realize what they can do to keep improving…and be motivated, but continue, but…we all go step by step, so like, we want to work on range of motion, then we walk, this is the goal, we have to explain to the patient, and motivated towards that goal because when you...[are] motivated, but also the goals are too far and it's no good motivation... [Uni1:98 - 100]

Family Support

In addition to patient motivation, Uni emphasized the importance of family support. Uni described the role of family or friends during the hospitalization as well as upon discharge in the following two excerpts.

> If you are in the hospital by yourself, and you need to have someone to be with you, I mean, a lot of times, they are just friends or family…as a human being, we need to have someone that to count on, and it makes patient[s] do range of motion, they can work on the exercises, they can continue to work and get better…sometimes what you do is not enough… they are there to get increase what they can…do, and increase their range of motion, and they have someone to help, you can have someone to help educate, to check on…the patient who is going home, but she is not [in]dependent, and she needs some supervision, and she has someone who just look up couple of days… [Uni1:187]

> She is on hip precautions, but she has a little bit of trouble, then she just need someone to remind her and just do work on therapy, just to keep working on that, it's not something that she has to stay in the hospital, inpatient rehab to achieve. [A]t least have someone temporarily, you can count on, you have someone there, they can help you, not all the time, but it's hard for them to… people have to go to work, but there are some people at home, that they can switch and help out. [Uni1:190 - 191]

Prior Level of Function

Uni implied that knowledge of the patient's prior level of function facilitates setting an appropriate goal for the patient.

> If someone has been in bed or has been wheelchair bound and he is coming now with fractures…even more medical issues or something. I mean the prior level was wheelchair bound…muscular dystrophy or something like that…you can't change what they have. You can't transfer in inpatient rehab, it's not going to change anything. So what level, what things they were doing before… it is how successful you are going to be. [I]f you can get them back to their ways…and they have more issues, and…they feel more difficult[y] with someone who has been at low level. More problems, and it's even harder to get them just back to that prior level they were. [Uni1:213 - 218]

When Uni was asked whether she meant a positive correlation between the patient's premorbid level of function and the outcome--the higher the patient's *prior functional level*, the better the patient outcome--she responded:

> The better. I mean the [more] functional…I think the person can be independent, and in any circumstances that is a positive outcome. But someone comes at lower level, someone comes with more issues, it is more difficult to have a positive outcome, it's more, like, first the person has more trouble, or they won't be able to get independent. [Uni1:220 - 221;223 - 224]

Interfering Factors for Successful Patient Outcomes

Uni's unsuccessful case illuminated three main factors. They were a lack of family support, a lack of insurance coverage, and the patient's goals that were different from Uni's. Although the value discrepancies were not addressed by Uni, it was noticeable between the patient and Uni as well as among health care professionals throughout Uni's description of her unsuccessful case.

In her most memorable unsuccessful case, Uni described her patient as a female with muscular dystrophy, status post right hip open reduction internal fixation (ORIF) due to a fracture. She had a manual wheelchair with a broken leg support. Prior to her admission, this patient had nursing assistance 5 hours a day at home. The patient wanted to go home and did not want to participate in therapy. Uni believed this was unsuccessful because the patient and her physician planned to discharge her home before achieving Uni's goal. "[M]y goal…with this patient [was]…to sit on the wheelchair before going home, being discharged" [Uni1: 266].

A Lack of Family Support

A lack of family or friends' support at home was also a huge factor for Uni's most unsuccessful case. Uni expressed a strong dissatisfaction in sending this patient home before achieving functional mobility, such as bed-to-chair transfer.

> I thought she had the nursing assistance that she needed help for her breakfast because she only had changed to be, so she only had someone to go for a lunch and then she goes to bed at 5 o'clock on a bedpan. So…she had everything…she wanted to do it, but…it wasn't that simple that the patient be able to transfer to the chair as she has her vital signs to be stable, and she would be able to stand for sitting in a chair for couple hours without, independently, before going home. She is now going home and she is not right there yet, however. So I don't think it's successful outcome because she is going to be discharged today. [Uni1:285 - 288]

A Lack of Insurance Coverage

When Uni was asked to clarify what she meant by insurance issues, she stated that her patient in this unsuccessful case did not have sufficient insurance coverage for her home assistance. "According with the nurse that I talk to… some people…ought to get more nursing assistance…she [the patient] can't because her insurance won't pay for it" [Uni1:398]. Uni has seen patients who, despite their need for inpatient rehabilitation service or equipment, didn't receive them due to a lack of insurance coverage.

> Insurance...equipment and...Say you have a patient written off without insurance, and this person needs to go to an inpatient rehab, but this is no way. [P]eople without papers not being an immigrant…no recommendations, they won't. [S]ometimes they do, but real life, they probably have to go home, and they have to ask for services for bonus [free of charge], or somebody to come see at home. [Uni1:228 - 230]

Uni addressed her role as a patient advocate, but she was also aware of her limitations and frustration.

> Proper equipment, allow patients in the house…give more independence, it can't happen, if the insurance is not going to cover for them for those people, they need…or you need for patients you have to fight, you have to go for sometimes… you can't afford to pay anything, and you can knock doors here and there, patients' body won't have it, they don't grab, they need assistance at home, what are you going to do? [Uni1:233]

Lack of Health Care Teamwork (Value Discrepancy)

Although Uni did not state a lack of health care teamwork or value discrepancy, she provided plenty of evidence in her description of the most unsuccessful case. When Uni recognized this patient's unstable blood pressure during one of her functional mobility training sessions, she initiated communication with other health care team members. Uni expressed her disappointment with the team members' lack of concern about the patient's unstable blood pressure. "He [physician] told me 'Oh, she doesn't have chest pain," or "She is not going to have [a] heart attack'" [Uni1:302]. Uni addressed the whole medical team's lack of knowledge and concern about this patient's quality of life. "They [the medical team] don't care patient is wheelchair bound" [Uni1:304].

> The doctor was like, "She was fine before coming to the hospital." But now, I'm in charge, and I'm taking care of her, and I think it's appropriate for her to have some emergency or something, especially she just had a surgery and her vital signs are not stable, she is sent with oxygen, she has her hemoglobin low, I mean, something is going on… particularly after surgery, and so yeah, I'm concerned about it, and now I worry about that. [Uni1:392]

Uni expressed her awareness of the patient's quality of life beyond the successful hip operation. She described how differently the trauma team members would view the same patient and pressure everyone to discharge their patients.

> Those trauma patients are discharged right away. I think that [what] they only think about is the right hip, or as one diagnosis. The patient has muscular dystrophy, she is wheelchair bound, so you… try to recommend an electrical wheelchair that would take a while…and I can't do everything, and…[it was] difficult to set a patient…who has muscular dystrophy, I can't move too much, [she] only has…[motion in her] fingers, I think she was pretty nice, all the things she is going through. [S]he is dependent whatever, I guess she might stay home and they got someone who can transfer [her] to the chair or she stays in her bed. So it's quicker. [Uni1:291 - 295]

Uni admitted for a moment that her goals were different from the patient's. However, Uni appeared not to modify her goals. Uni also described how this physician's written order for discharge and constant paging could add pressure to Uni's precious work hours.

> I think that [the] patient… just wants to go home and lie down in bed, how I heard not to get, her ready to, practice electrical chair training, stay here independently with wheelchair mobility, I think my expectations weren't right. No, I can not agree with [the] patient… the doctor, of course, he was fine…my supervisor saw him… I feel like I was being… harassed, I mean, calling constantly, patient refused, as I was explaining to him what happened to her, on my notes in the chart, I tried to see her on the same day, and he chased me, and "what's going on?" "Why you didn't see?" "When should I send her home?" I'm like, I'm doing the best I can. [Uni1:309 - 311, 312 - 314]

Perceived Influences in Uni's Belief Formation

Definition of Successful Patient Outcome

After her factor sort and describing her most memorable successful case, Uni defined successful patient outcomes in the following excerpt.

> Patients that can come back to [their] previous level, or at least being independent, be able to do things on their own, that can…still [be] limited …still participate in the society, and that can still, those things on their own that they enjoy in life. [Uni1:238]

When she was asked whether her definition of successful patient outcomes had changed since she was a student therapist, Uni did not mention any change. Instead, Uni showed her aspirations to be more effective and efficient by becoming more resourceful and knowledgeable.

> Well, I think sometimes… when you are in charge, you have a lot of responsibility and sometimes to do things right takes forever. [Y]ou want to do something right, it's going to take, sometimes the more things, and you are really get into it, and there is always help to you if you know how to do things, just wait until couple years, they are going to be like very sharp, and I want to champ, I want to get better… know more about insurance, more about equipment, and wheelchairs, things like that, I just want to get better, the things I can provide as a better therapist. That, I think it's going to get better because I get better underst[anding], I think …you are helpless, can't do anything, not you are in the position that you can do something about it, but this just has to realize…now you know what is so hard to get things, it's not just like, "Oh, where did you get that?" [M]aybe he can't get it, like, so I think a lot when you are in charge, you need to learn…I'm only learn[ing] now what [is] the best recommendation that [is] the clinical decision making with good connection. [Uni1:244 - 246]

Professional Experience

Uni described one teacher and one therapist who encouraged her to become a life-long learner and dedicated physical therapist.

> [I] have a teacher at [my college] that I look at her and she…inspire[s] you to keep growing in the field, and I have another therapist, a teacher actually from Colombia, who was always encourag[ing] me to keep learning, and… they really know their subjects and just keep growing, and you are admired because they know a lot in the field and these things correctly. [hospital intercom overlaps] They go to the bottom of things, and I mean, I thought I'm going to end up at the bottom, [I]t's a start, it's just something to look forward, to motivate, to continue to study, get more

> experience, participate more, they get more continuing education and things like that. [Uni2:105 - 106]

Personal Experience

Uni described what she learned from her grand-mother, a lesson that would be applicable in whatever career she would pursue in future. In a physical therapy context, it stresses the importance of the physical therapist being passionate and being motivated in the profession in order to motivate patients.

> [I] learned from my grandmother. She was always hard worker and she just… you got to keep your heart in what you do, and you need to do something that you enjoy and like. [I]f I'm motivated and to motivate people, if I don't feel like it, I should try to, why should I expect somebody else to be motivated while I can't even do it. [Uni2:254 - 256]

Uni's personal injury experience soon after she arrived in the United States was not so positive. Her outpatient physical therapist was not nice or inspiring. Despite her desire to understand her specific medical status, the language barrier put her in a disadvantaged position.

> I fractured my ankle, and they told me, oh my god what's that? You can't be a nurse. What was wrong with me? Exactly what bone…you want to know a little bit more about it… I had some college education, I wanted to know exactly what's going on, but I couldn't understand what they were telling me. I paid thousand dollars and no health insurance and I only understood that. But it's just, you are scared. [Uni2:198- 203]

When Uni was still in Colombia, she met a wonderful physical therapist who helped her be involved with her young cousin's care activity.

> But I had a really good experience with the therapist who worked with my cousin. I had a great experience, [a] physical therapist [and an] occupational therapist. And I was…involved a lot. I was involved in his treatment and therapy, and I was the one who was going with him. So I had a really, they were great. [Uni2:150 - 153]

Factor Sort Result

Uni started her list of facilitating factors with *patient's motivation* and it remained as the most important factor during ranking. Although Uni wrote *D/C pending orders/doctors orders* as an interfering factor first, it came down to the fifth during ranking them in the order of the most important to the least.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Pt's (patient's) motivation*	*Lack of family support*
2	*Family support*	*Pt's (patient's) goals and motivation*
3	*Medical issues*	*Unsupportive management*
4	*Prior functional level*	*Insurance issues*
5	*Insurance for appropriate equipment or D/C recommendations*	*D/C pending orders/doctor's orders*

Potential Researcher Bias

Uni had two distinctive demographic features among the 13 participants: the shortest length of clinical experience and her Hispanic ethnicity. She was the last novice PT to be interviewed, so when the interviewer listened to her using descriptions such as, "my goals," or "my treatment," without much appreciation of the patient's goals or social background, she could not help but sense the similarities among many novice PTs in terms of their attention and focus of the therapeutic process (Reflective memo 8/12/03).

When the interviewer asked Uni about whether her beliefs about successful patient outcomes had changed, her response was projected in a future rather than reflecting upon her previous experience as a student physical therapist. The interviewer interpreted it as her beliefs being formulated and that would continuously formulate in the future. However she could not recognize any change yet due to her limited clinical experience.

Conclusion

Uni believed that the *patient's motivation* (Factor sort #1), *family support* (Factor sort #2), and the patient's premorbid function were the most important facilitating factors for successful patient outcomes. In addition, Uni addressed factors such as patient's medical status and insurance coverage for appropriate disposition or equipment.

Uni emphasized a lack of family support, a lack of insurance coverage, and the patient's goals that were different from Uni's as interfering factors in her most memorable unsuccessful case. Although Uni did not address it as a factor, the value discrepancies between the patient and Uni as well as between her and other health care team members was noticeable throughout her case.

Uni's beliefs about a successful patient outcome have not changed since she was a student physical therapist. The contributing factors for her belief formation included her academic teacher and a physical therapist, her grand mother, and her cousin's physical therapist. Her negative experience during her injury might have contributed to her sense of duty to help patients understand better and become empowered. As she stated repeatedly during her interviews, Uni is "*in charge*" and she is "*doing her best as she can*" every day.

Interviewee Summary
Saba: "Sooner that we can get somebody a little bit more independent in their own life, then they can continue to work towards improving the quality of their life after that."

Interview Dates: 8/5/03 8/13/03
Interview Time: 12:05 – 12:58 pm 12:05 – 12:40 pm
Interview Location: Chief occupational therapist's office at Saba's clinical practice site

Interviewee Characteristics

Saba is in his late 20s and currently works as a Staff Physical Therapist at a large Trauma Level I teaching hospital with a total of 1 year and 2 months of clinical experience. He states that his current rotation is in inpatient neurology service and he plans to continue his rotation through different services within the hospital. He received his Doctor of Physical Therapy (DPT) as an entry-level PT degree. He had one minor injury experience that required physical therapy in his pre-teen years. He also has an experience as a caregiver for a family member. Other demographic data indicate that he is White, not married, and his religion is classified as none (Demo form 8/13/03). He was the only participant who chose his lunch time for both of his interview sessions (Reflective memo 8/15/03, 8/13/03).

Coding Characteristics

Among 17 axial codes, 11 were used to code Saba's first interview, while the second interview was coded with 16 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Saba's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

Saba illuminated three major concepts that facilitate successful patient outcomes. They were patient *commitment*, health care teamwork, and *family support*. Other factors, such as equipment/resources and length of stay issues, were summarized under the sub heading of health care system issues.

Patient Commitment

From his experience, Saba believed that there was a positive correlation among patient motivation, commitment, and rehabilitation outcomes.

> The patients who are almost requesting that they actually physically want us there, versus a doctor saying that person is deconditioned and needs us. Someone who is actively seeking to work with us, usually have much better outcome from everything I've seen before. They are usually the ones who are willing to put in their time, and understand why they are doing what they are doing, and…almost across the board, I would say, all

> the patients, who…have done the best…actually are interested in doing it and working. [Saba2:12 - 14]

In his narrative of his most memorable successful case, Saba described his patient as a female in her 70s who had a heart attack approximately 4 months ago. Her recovery was further complicated by a respiratory failure which resulted in difficulty in weaning from a ventilator. Saba was aware of this patient's psychoemotional status in addition to her physical status. "When I saw her, very depressed, very unmotivated, very deconditioned, and energy level was pretty much nonexistent, so it was a struggle just to get her to participate in the first place" [Saba1:12].

Saba stated in the following excerpt that this patient's lack of commitment to her rehabilitation program was adversely affecting her recovery process. Following a family planning meeting, the healthcare team gave an ultimatum to the patient so that she was aware that not being committed to her rehabilitation team effort could result in a nursing home placement.

> She was up on the ventilator rehab unit, that's one of the more specialized units on the hospital for, and it was getting to be a point where the care was suffering on the daily basis for lack of motivation on her part, a lack of a structure and the environment, so at different times I had called surgeons and I had talked to her and had conversations, we had family planning meeting, where we sat down and talk to the family about what was expected, what was necessary, but specifically in the room with the nursing staff, we arranged the whole room so that she had her expectations and goals for each day right in front of her. She had a requirement that she had to fulfill every single day, or we would stop caring for her and with the ultimate knowledge that she would probably be going to a nursing home if she is not making progress or not able to do some of the things for herself, so we sort of structured her day around that, she knew every single day what we thought was progress versus what she thought was progress. [Saba1:24 - 25]

Saba also stated that once this patient understood the situation better and started to see some progress, her motivation and commitment to her rehabilitation effort improved.

> She…was not vested whether if she cared, or didn't und(erstand) or didn't put together that if she didn't try, she was most likely going to die or have a very bad outcome, and she had no goals…so she wasn't vested in what we were doing, and…my treatment session sort of became a mild annoyance to her if anything, by the end of that, when she started to see some results, or better understood the picture, she had, her goal was to get out of the hospital, and she started to trying more and made a tremendous amount of progress in a shorter period of time. [Saba1:130]

Health Care Teamwork

Despite this patient's initial lack of motivation and commitment, Saba believed that the excellent teamwork built specifically between the physical therapists, the nurses, and the respiratory therapist on the floor made the difference in this case.

> I would say just fantastic cooperation, the nursing staff was wonderful helping out. Also since she was on the ventilator rehab unit, there they had a respiratory therapist…who was intricately involved and she had such a hard time weaning from the ventilator that, all the time, we had a portable ventilator we used to move around on and it's bulky, it was tough and she was a tough patient to care for in general, so they really helped out monitoring a lot of the equipment and helping me with that. [Saba1:28 - 29]

Although Saba didn't take all the credit, he implied that his and some others' dedication and persistence in trying to make a difference in this patient's life might have influenced other health care team members positively.

> I was sort of new to the field and I wanted...I would look it as a personal goal to get her out and throwing in a lot of extra time, a lot of more time spend with the patients and, I think, a couple other people were doing that too. She's been in the hospital for such a long period of time, now a lot of other people were putting in a little extra time, and then the ones who weren't, so there were a couple of us spending, like, putting extra effort in, I think that motivated some other people to get on board, and really try hard, and really throw the extra energy her way. [Saba1:38 - 40]

Saba described how various health care team members worked towards the same goal by communicating and respecting each other's needs.

> I don't know if we were kind of working all independently of each other, if things would end that well. If I was on my own, and sort of doing my own thing and had my own goals for the patient, the nurses had their own, I don't think it would end this well, specifically for her, the nursing staff was available, she needed a lot of care, whether it's pulmonary or just regular care, throughout our sessions. [P]eople were available on my page, when they needed help with her, work on her getting into and out of bed, things like that, and they had specific things they needed that would facilitate their treatment of her throughout the rest of the day, I tried to work on those goals. The respiratory team was excellent, they got involved very quickly. The speech team, occupational therapy, everybody was sort of had a say in what was being done, and then right down to the primary doctors consistently asking, "What can we do? How better can we do this? Can we make her more aware of the goals?" And they had their input on it too... [Saba1:135 - 142]

Family Support

In addition to the health care team effort, Saba acknowledged this patient's family presence contributed to the positive outcome.

> It seems that a couple extra people on the floor were really interested in and trying, and her family was present also all the time and they were very vocal and care for the patient so, might have also been they were prompting a lot of people were really keeping…on top of this case the whole time. [Saba1:45]

In fact, family support was absent until the family panning meeting where the healthcare team's goals were described, although the ultimate prognosis was unknown at the time. Saba described the meeting in the following excerpt.

> The doctor, he did start out and he talked about 10 minutes to the family, and someone was crying and upset, and other people were very vocal about certain issues. And when I talked there, they were very vocal to me too…it was pretty tense…but…we didn't specifically have all the answers they wanted but…we were able to tell them what we were planning at least, not what the outcomes would be…what were our goals and what we were planning and I think that in the long run, it was the long meeting, by the end of it, everybody was sort of satisfied that there was at least a plan in place. [Saba1:56 - 57]

In the following excerpt, Saba's frustration was visible while the patient's commitment was not evident. However, with the improved family involvement in this patient's care, Saba's long standing frustration had diminished.

> I felt like we were really hitting the brick wall with her. I've been in contact with her family, especially in acute, very critical stages, they were very interested but they weren't necessarily helpful…When we got up to the ventilator rehab unit, we were still running in[to] that same obstacle with mostly with the patient, and it gets to a point where you can keep beating your head against the same wall over and over…and it's not going to change anything. [H]aving a family meeting, getting them actively involved, and interacting with their family members there mostly doing, I felt like, we made something…it wasn't immediate but it was a start, getting the ball rolling in the right direction, and they started reinforcing what we were doing during the day but also helping bring her out of depression and…break some of the cycle. [Saba1:188 - 190]

When asked what were the visible signs for good family support in the acute-care setting, Saba replied:

> [S]he had more recreational materials brought from home, things that she would [be] interested in, whether it was books, or magazines, or crossword puzzles, things like that. Brought things [that would] sort of break the

> cycle…they were trying to have a family member there a lot and luckily they had a large family and resources to do that. So they were able to split up their time and be around, be available to…get out of… the hospital mindset and then reinforce, specifically reinforcing exercises, the exercise journal and log book I gave her. I saw that they were helping her through those and helping her with them, so I thought that they took really pretty nice role in that. [Saba1:195 - 198]

Health Care System Issues

Saba pointed out that his current work site had excellent equipment and resources that facilitate patients' recovery processes. Specifically for this patient in the successful case, various skin care needs were met by the use of an air mattress. When the patient searched for comfort in her chair, there were various types of therapeutic chairs available. Saba reported that he had not seen many hospitals that were equipped with portable ventilators for patients with ventilator dependency. Portable ventilators allowed patients to go out of the patient room sooner, and getting out of the room would have immense benefits both physically and psychologically during hospitalization. The ventilator rehabilitation unit (VRU) was also noted as a uniquely contained unit that promoted this patient's recovery.

Saba appreciated that this patient was given enough time to rehabilitate because he had seen patients were often given up on prematurely.

> She was here for the monstrous amount of time, that included a long ICU, intensive care unit stay, a long ventilator rehab stay, and then, eventually …polishing off point at the rehab floor, and she went through all aspects of, I bet it was…given the time, and even times that were frustrating I thought that everyone thought of giv(e)[ing] up on her and push out the door, because you see that a lot very often too, in this case, we all sort of given the amount of time to make a difference, sort of to keep her going on [in] the right direction, so it really helped. [Saba1:165]

Saba also noted that he had observed that some of his patients could benefit from a day or two longer length of stay at the hospital, so that the equipment needs would be streamlined; the arrangement for additional services, such as a skilled nursing facility (SNF), might not be necessary; and potential readmission might have been eliminated.

> It seems once they are medically stable, you get pushed right out the door one way, for better or worse, they make sure they have all the equipment needs…but sometimes they actually send them to a skilled nursing facility, or trying to get them into rehab, and it winds up costing, I'm actually not sure about the cost of inpatient stay is, but you're going to all these different services and put a lot of burden, lots of different things where, if you…just one or two more days, you can just stall up for a day or two, you wouldn't need a whole new admission to a skilled nursing facility, whole admission to a rehab environment, they wouldn't need as extensive an equipment to being sent their house, if they could just spend a

> little bit more time, for maybe two more days and get in there. And there have been times when I talked to the primary team and said, "Can you, sort of, can you stall? Can you give me these two extra days?" [Saba2:210 - 212]
>
> And sometimes, the primary team may be able to say, "Yes, we can work on this while they are still here for these two days..." there have been times where they said, "We are very anxious to have this person out, we need the bed. We'll take care of this in some other fashion." [Saba2:218 - 220]

Interfering Factors for Successful Patient Outcomes

In his most memorable unsuccessful case, Saba described his patient as a 25-year-old man who was a victim of a gun shot wound to the head which resulted in some cognitive deficits and brain injuries. Saba reported that no one in the team felt they had accomplished anything towards the patient's independence during his 3 week hospitalization. "*By the end of the whole…3 weeks…I'm not sure I accomplished of, any of us as a team accomplished any of these goals*" [Saba1:231].

Additional information from the chart indicated that this patient was an African-American male and his hospital course was complicated with embolic left meddle cerebral artery (MCA) cerebrovascular accident (CVA), had an emergent left craniotomy, temporal lobotomy, and duraplasty, which resulted in right hemi paresis and wound infection (Artifact Pt #22). This case had all of the interfering factors that Saba listed during the factor sort: lack of patient commitment, health care teamwork, family support, and learning ability.

Lack of Patient Commitment

Although it was not totally distinguishable, Saba described this patient's lack of commitment to the rehabilitation effort in the following excerpt. If his cognitive deficits were minor enough, it could also be interpreted as a value discrepancy between the physical therapist and the patient.

> Yes, that was another instance of whether if it's because of cognitive deficits or personality portion of it. [I] think, a little bit played in both, but he didn't value what we were doing at all. He didn't value it as helpful and important and didn't understand that he would pretty much need somebody doing everything for him for the rest of his life. So since he didn't understand the situation or care about the situation, it was as much working against the patient as working with the patient to achieve goals. [Saba1:286 - 288]

Lack of Health Care Teamwork

Saba initially assumed that other team members were making progress while his contribution to the patient recovery was rather minimal. Saba reported that there was decent communication among the team, but they were probably slow (Factor sort #2 & 5).

> I was more conservative with my area of things and I thought that, you know, everything else would be taken care of from different sides. When I found that I wasn't having as much success or much success at all in my area, I started reaching out to the different disciplines, occupational therapy, speech, and even to the primary medical team to… trying to see if I had any explanation of they were having great success, and I found out nobody was having good success. And…saw it fell apart from there. [Saba1:236 - 238]

There were three weekly team conferences held for this case according to the chart review. However, neither the participants' names nor signatures were available, thus it was difficult to visualize how the team functioned and who contributed what types of recommendations during each conference (Artifact Pt #22).

Along with the communication among the team, Saba addressed that an extra effort in attempting to reach this patient's family might have been helpful to clarify disposition issues (Factor sort #3).

> I think we had a skewed perception of what this person's home life was and that was based on listening to a person who otherwise seemed cognitively there, but we all knew from various aspect of treatment that he was very cognitively impaired in different ways. And very insistently he would tell us one thing, and it was completely inconsistent with what he was going home to. So the disposition, where he was going home to and everything else like that, completely unsafe, so probably getting them, the family involved sooner or going after extra step and calling them on our own or talking to them. Some attempts were made, phone calls were returned but there weren't extensive attempts, I don't think, that were made. That could have clarified things a little sooner. [Saba1:244 - 248]

Saba implied that the patient's complex cognitive deficits might have negatively affected the health care team communication.

> [H]e couldn't talk very normally and seem very normal, and I think, so even off the bat, everyone was told and knew there was some brain injury, everybody knew that was one of the things but the complexity of, his interactions with everybody, pretty manipulative, and…probably because of brain injury, also very deceitful a lot of times, and made he, sort of, played people against each other... [Saba1: 257]

Saba also described the potential negative effects of being at a large teaching hospital on communication and coordination of care (Factor sort # 2 & 5).

> I think that a lot of poor miscommunication results if there is, it's a teaching hospital so there are a lots of different people. There are residents, medical students, and even the nurses, different levels of nurses

> involves in the care, some of them are ones who overseeing, ones actually doing the care, and straight down the line that it seems like there are so many people treating that patient, and they switch, they switch every month, so that kind of gets down to my last one [factor sort] too "inconsistent care of the patient," I felt like…there wasn't a real cohesive, real start to finish plan that was carried to this patient, sort of. [Saba1: 303 - 304]

For example, certain instructions may not be transferred from a day nurse to a nurse in the night shift.

> They would have, maybe a nurse, one nurse overnight would be very interested in trying to set up an environment that was, and then might not be carried, even with therapist, maybe I would be setting something for and the therapist covering for me wouldn't continue what I was doing exactly or wouldn't do that or vise versa, they try something different and they really thought that was something, and I kind of didn't agree with that direction of take things, and I would back off on that, and then the long run, the patient, especially someone with cognitive deficits, gets the mixed message and gets very scattered brain approach to treatment, and I felt like it got in the way. [Saba1:314]

Lack of Family Support

Saba stated that a lack of family support had a huge impact on this unsuccessful case, and it could be generalized to most of the other patients whom Saba treated in the hospital setting.

> And this case had a huge impact, but you see it every day in the hospital that out in especially if they are going home, disposition, leaving the hospital, it causes a lot of problems if people…need assistance but don't have the assistance at home. It's where else can you go and that's where you start getting into other settings and situations, but in this case there was complete…lack of realistic or involved family, they were able to formulate a plan and actually take care of this patient... [Saba1:320 - 321]

In the patient's chart, Saba had several entries indicating the need for family education. However the actual family education session documentation was not found, which was consistent with the above statement. "Pt ed[ucation]: HEP [home exercise program] Family ed TBA" (Artifact Pt #22). "Continues to require S & A secondary to decreased safety awareness & R sided neglect. family training scheduled for p.m. with pts brother" (Artifact Pt #22).

Lack of Patient Learning Ability

Saba provided some clinical examples to demonstrate how critical the patient learning ability is for a successful patient outcome. Saba contrasted the patient in his unsuccessful case and with others who might have more severe physical dysfunctions with the ability to learn and carryover.

> In this case specifically, we did, kind of deficits he had when he was walking, he was strong enough to overcome them…I've seen people with, so much older people with hundred different other comorbidities, who are weaker in general than this person, who are able to because they had a little bit more mental ability to recognize the situation and listen to directions and understand, follow directions a little bit more appropriately; they could shift their weight while gait training, they could shift their weight to help clear the foot during swing through. And I've seen people who shouldn't be able to walk…just because they can understand and follow and follow directions. With him, in a session he might be able to do that. He might by the end, if you really now blasted with him, he might understand, yes to do this, I have to do it in this pattern shift my weight this way. But you would come in the next day and he would tell you "Oh yeah, I remember what you are saying," but there would be not an instance of carryover... [Saba1:327 - 331]

Saba appeared very frustrated with not being able to help accomplish the patient's independence. "Groundhog day, it's the same day over and over again" [Saba1:261]. "It really was a process of small gains every day that was erased by the next morning" [Saba1: 332].

> [E]very single treatment session was the same treatment session almost, because he cognitively was unable to carry something over from one day to the next, and that, that's what something we were aware of right from the beginning, and trying to make more of the impression that things no matter what you gained one day, they didn't necessarily translate at all to the next day. [Saba1: 257]

Perceived Influences in Saba's Belief Formation

Definition of Successful Patient Outcome

Saba defined a successful patient outcome in his current practice context in the following excerpt.

> The outcome at the best possible outcome considering the situation. It doesn't necessarily mean every single person is going to return to their same quality of life before they came in to the hospital, but more they with whatever new onset of illness…problem, you get to the level where they can function as close to as independent as possible…you are getting them to a point that they are able to work towards independence anyway, so make them independent or working towards independence... [Saba1:206 - 207]

When asked whether Saba's beliefs about successful patient outcomes had changed since he was a student physical therapist, Saba responded with the implication of the change being in progress.

> [E]ven right now…we send people in wheelchairs and that, to me, that's not very successful. I would say that's sort of last resort, saying they are not going to be able to get around in any other way. So as a student, I would probably thought that in some way, we failed or we didn't achieve what we needed to achieve. But now I look at things and physically and mentally being independent with your life and not needing someone to do for you is successful…I guess my attitude sort of has changed, sooner that we can get somebody a little bit more independent in their own life, then they can continue to work towards improving the quality of their life after that. [Saba1:210 - 213]

PT's Professional Experience

Saba noted several professors in his DPT program who encouraged students to strive for making a difference in the patient's life and how students could grow to become physical therapists who would be distinguishable from other health care professions. Saba also described how his clerkship preceptor impacted on how he would want to practice and contribute in successful outcomes--avoid being repetitious and be creative in patient care.

> And what I happened to have was excellent, and he really told me right from the get-go, that you can either do this job like a monkey and sort of just follow, do the same thing every single time, or you can kind of adjust it and be much more involved in the patient care, much more creative approach... [Saba2:35]

One of Saba's internship experiences gave him an opportunity to practice what he learned in his clerkship--being creative. In the following excerpt, Saba illustrates the benefit of being creative in working with patients whose diagnoses were very similar in worker's compensation cases.

> It seemed like we were completely filled up with…the same injury, the same company, the same worker's comp, and there is, you can get in a rut very easily as a therapist…I think was really the big take-home message from that was tailor it specifically to the patient, and don't be afraid to be creative, and keep using every day to try to be little bit more creative. [Saba2:103]

In another internship experience, Saba described how a well prepared patient education packet failed to deliver the message when the patient's background was not taken into consideration. Saba also cautioned not to assume a correlation between the socioeconomic level of the community and a specific patient's education level.

> This was actually being right down inner city, much less affluent, education level was not as high. Specifically one of my projects as a student was coming up [with]…patient information…lumbar stabilization programs...And my first attempt at it, I thought it was very general…and it was funny, I was…just handing to a few patients, so I knew just appropriate, they weren't getting anything…they weren't getting my take-home message, so it kind of brought home that you really take into consideration of someone's background, and then, also the flip side of that, don't assume everybody is just because they are in inner city, that they are uneducated, and the flip side is to sort of, gauge each person…find out what you are dealing with, and then go from there. [Saba2:112 - 113]

During another internship, Saba had six different clinical instructors (CIs) due to their work schedules. Most students might consider this experience challenging, but Saba was able to go beyond the initial difficulty in dealing with different supervising styles and to appreciate the diverse approaches each CI shared with him.

> In a week, I would have two CIs [clinical instructors]. And then, I, they switch me from cardiac to wound care to neuro while I was there. And at first, I wasn't comfortable about that getting used to so many different personalities, but the coolest thing about that was while you were there, there were six different people who actually pretty good therapists, and they all have; one was more, don't do too much until we've done it together, I know you are safe with it, but watch it here and explain it, and then the counterpart for that same thing would say, "OK. Here your patients, give me a call if you need me for anything, I'll be down the hall. I'm treating the patient down here, but any questions you have," sort of let you be more independent, but was there if you needed, too. So with, within even a week, you've been working with two specific CIs with most opposite styles but…I thought it was a benefit, you…had the best of the both worlds you as long as you had the same expectations with them and knew what to expect from them. [Saba2:83 - 88]

When asked whether Saba perceived anything different from his first day on the job one year ago, he replied that he was able to relate to the patient better by understanding what he or she was going through during hospitalization. He felt much more confident in his patient education. He also reported that he could overcome the new graduate mentality--a competent practitioner should be able to solve any problem on his own without help. Saba gave the following example which contained both declarative and procedural knowledge gained through his clinical experience.

> It's kind of knowing when to say when, also knowing to ask for help versus when to proceed ahead, as a new grad, I assumed we supposed to be able to do everything on our own and we are sort of called bad if you…couldn't, so an area just being a little bit more knowing when I need help and not knowing when I need help, and specifically with the

> cardiopulmonary area, I feel at any given time with some very complicated diagnosis with very complicated equipment. I spent 6 months for I wasn't working in the ICU, then I got a consult, I went down, was a lung transplant, I guess on every possible device and including the ventilator, and everything like that, went right in, felt very comfortable, organizing the environment and helping the patient in that environment. [Saba2:143 - 144]

PT's Personal Experience

Saba stated that all of his family members in various levels contribute to assist his mother who was diagnosed with multiple sclerosis 6 years ago.

> My mom has multiple sclerosis and has had…been diagnosed with it for 6 years, and she walks around OK, she gets around, well, wobbly with the cane, usually she has to hold onto someone as well, but my dad does all…pretty much take care of her primarily, but obviously, the rest of the family has different various times, including myself are there to take her out, drive her places…help her around the house as much as possible, and …help her ambulate a little bit, if she needs that even. [Saba2:170]

Saba's mother's hospitalization gave him a moment to reflect on his own professional behaviors towards his patients. This meta-level reflection seems to occur in a cyclic manner between the conscious and unconscious level.

> I always think it's funny after working in the environment, how used to, even in a year, you also get very used to certain things…so much of it is routine, and taking a step back just going into an unfamiliar hospital, helping my mom out there, just seeing more, or like how they tell her the way, what was expected of the nursing staff, or what was procedure-wise when the communication between the doctors and the patient, I, I always take a step back, and realize the patient really is usually pretty scared, usually not at their best, and there are so much being thrown at them that is not explained, so it makes me want to, I try, almost to the point of over-explaining…but I…just want to keep orienting people, explaining what's going on, explaining what to expect in a future, so definitely, and every time I think, I notice over the course of the year, I seem to learn that, forget that, and then get reminded, learned it, forget it, learn, it's a continuous cycle. [Saba2:185]

Saba summarized his reflection once more in the following statement. "[T]his is not that routine, the person, this is, the person might need a little better explanation of what, why, and when" [Saba2:189].

Factor Sort Result

Saba carefully wrote five facilitating factors, then while ranking them he switched between 1 and 2, as well as between 3 and 4. He took a more careful approach to completing the list of interfering factors, incorporating all the factors that Saba experienced in his unsuccessful case (Filed note 8/5/03).

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Patient commitment/goals*	*Pt commitment/interest not equal to level of care*
2	*Team approach from all disciplines*	*Poor communication between the different teams treating the patient*
3	*Available equipment/resources*	*Lack of family support, or reliable friends*
4	*Increased time of acute care stay*	*Cognitive deficits of the patient limiting carryover of learning*
5	*Family/friend assistance*	*Inconsistent care of patient*

Potential Researcher Bias

Saba is one of three male participants in this study, thus the interviewer was consciously searching for any clues or nuances of gender differences in his two interviews as compared to others. The interviewer did not detect any significant differences associated with gender. Regarding his professional education, Saba was the only one who received his DPT as his entry-level degree. When he mentioned learning to be creative to avoid becoming "a monkey PT," the interviewer wondered if that was also related to his DPT program.

Saba's quotes regarding health care teamwork were used in both successful and unsuccessful cases because he was the only one among the novice group who listed it in the factor sort and discussed it during his interviews.

Conclusion

Saba believed that the *patient's commitment,* health care teamwork and *family support* were the most important facilitating factors for successful patient outcomes. Saba also made observations about a unique service and equipment that facilitated the patient's recovery process.

Saba illustrated major interfering factors for a successful patient outcome in his unsuccessful case. They were a lack of patient commitment, health care teamwork, family support, and learning ability.

Saba's views of a successful patient outcome have been changing. The influential factors for forming his beliefs included his academic teachers and clinical instructors, but most importantly, his own direct patient care experience. Saba acknowledged that he gained both declarative and procedural knowledge through clinical practice.

Saba's caregiving experience for his family member seemed to function as a reminder to use the metalevel reflection in his practice. Saba's enthusiasm in trying to make a difference in others lives and his investment of extra time into his patient care appeared to be contagious in certain environments.

Interviewee Summary
Ikura: "My role is to make a patient as functionally independent and safe as possible in the environment."

Interview Dates:	5/8/03	5/28/03
Interview Time:	2:00 – 3:00 pm	2:00 – 2:50 pm
Interview Location:	Outpatient treatment booth at Ikura's clinical practice site	

Interviewee Characteristics

Ikura is in her early 20s and currently works as a Staff Physical Therapist at a large Trauma Level I teaching hospital with a total of 1 year and 8 months of clinical experience. She states that her main practice is at a pediatric hospital adjacent to the main acute care hospital where she only provides consultations to adult patients. She received her master's degree as an entry-level PT degree and has been enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. She has had some personal injuries that required physical therapy. She also had some caregiving experience for a family member. Other demographic data indicate that she is White, not married, and her religion is classified as Protestant (Demo form 5/8/03). Ikura expressed her willingness to help as a research participant throughout the interviews (Reflective memo 5/28/03).

Coding Characteristics

Among 17 axial codes, 14 axial codes were used to code Ikura's first interview, and the second interview was coded with 15 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Ikura's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

Ikura stressed the importance of patient motivation, family support, the PT's knowledge, and the health care teamwork. To motivate a patient, Ikura emphasized the need to understand each individual's personal goals, learning ability, and previous functional level. Ikura implied a collaboration between the patient and the PT is possible only if each one possesses this specific knowledge about the patient.

Patient Motivation

In her narrative of her most memorable successful case, Ikura described her patient as a 19-year-old female who was status post ventriculoperitoneal (VP) shunt placement with a postoperative complication of subdural hemorrhage. When Ikura performed neurological check every 4 hours on the postoperative day 1, the patient suddenly became unresponsive. She had multiple comorbidities, including multiple spinal fusions of the cervical and thoracic spine. Ikura described her further in the following excerpt.

> She had, mentally I mean, she was pretty much there but she was a typical 19 years old, drugs, alcohol, and the whole 9 yards. So but…at the

> beginning she had nothing on the right hand side, by the time we have finished with her, she was walking, doing stairs, I think, it was one of the most memorable for me in that the neurosurgeon was so impressed with how therapists interacted with the child, and I think we opened her eyes and say this is what therapy is, this is what they can accomplish and it was just one most rewarding and…memorable case ever. So just seeing her laying in bed and not being able do anything to the point she couldn't even speak, to the point by the time she left, she was singing happy birthday. [I]t was amazing. So we sent her to rehab and she supposed to be doing well. [Ikura1:48 - 52]

Ikura believed that this patient's inner motivation was the main facilitating factor for her successful outcome. Ikura described the importance of having mutually agreeable goals between the patient and the physical therapist to bring about successful patient outcomes.

> Motivation, perseverance really made a difference. This girl was not going to give up. And you really have to have the patient motivated to be able to accomplish your goals. If you don't have the patient on your side or trying to work, you are not going to get where you want to get. [Ikura1:88 - 91]
>
> A therapist can have their own goals, but if they are not the same as patient's goals, your treatment isn't going to be as successful. If a patient's goal is only just to be able to walk in a house, then that's fine, but if the therapist may think, oh we want them to be community ambulater. But…we are here for the patient, we are not here for ourselves. And we just want to work towards what they want. [Ikura1:257 -260]

Ikura stated that the use of reward was warranted because the children might not understand the goals and benefits of therapy.

> And with the kids a lot of times we do rewards type thing, so if you do this we can walk to the gift shop and you can and I'll buy you a candy bar. [T]hat's part of your therapy, walking down. You don't think about it, but if you do this, we'll go down and get some candy and hang out, or something like that. [Ikura1:96;98 - 99]

When solicited, Ikura provided the following specific examples of rewards.

> I think a lot of little things in that, a specific toy, a specific show. You say, "You can do this with me and sit down and we'll watch a cartoon together." Or he likes the scooter, so you can do this, we'll get you on the scooter. I mean almost using rewards as part of the motivation. "You know what…if you do this, you are able to go home and you are going to be able to play with your brother outside and you are able to run around, but if you can't do this, we are not going to get there. You are stuck… here again." [Ikura2:115 - 120]

In other situations, Ikura also believed that the therapist's mood would help improve a patient's motivation.

> [J]ust the mood the therapist is in really makes a difference. And coming in and smiling and being able to…even sometimes just asking about their family or asking about this or that, it really makes them enjoy being with you, which in turn can help motivate that person and succeed. [Ikura1:238 - 239]

Working with a motivated patient could become a reward for the therapist. Ikura described how one of her patients made her work so rewarding.

> I think you have a patient that want[s] to get better, want[s] to go home… today for example, there is a woman that has been really depressed, but when I went in there and I told them what I am here for and I'm here to help them and here to provide the care that they need and get them stronger to go home. And she was just so ecstatic that…somebody wanted to help achieve her goals of going home. And…she motivated me almost because…[it] made me want my job. Made it so rewarding when you have somebody who is so motivated and want to do, this [being a PT] is what I want to spend the rest of my life doing. Somebody to enjoy and expect the best of my care, that's great. [Ikura1:247 - 252]

Family Support

Ikura emphasized the importance of a patient's parents' input to improve the child's motivation, as well as to individualize the program that would be realistic to the home environment by incorporating parents' desires and abilities.

> Over there [at the pediatric hospital] the parents are really involved in their child's care. So you have to take the parents into consideration almost as much as the patient because those are the ones going home to. And nobody else really…the parents have to take the burden of the care. [Ikura1:74, 76]

Ikura expressed that she would respect the parents' knowledge about their child and would incorporate it into the therapy program.

> Same thing with motivation. It's hard, like parents know their child better than anyone, and you have to some time lean on their parents to guide you in what motivates this child. Maybe I don't know that such and such will get this child motivated. I'm trying something else, and then the parents say, "No, you do this, then maybe." You rely on the parents a lot. [Ikura2:107 - 111]

Ikura attempted to compare the level of parental involvement in pediatric care and in adult acute care in the following excerpt.

> [I] think a lot that the family, a lot of times with pediatrics have little bit more influence on things because you are having regular acute care outpatient, you still doing with family, but with pediatrics family is just so much more important with those, and you really have to focus your treatment with the parents and involve everybody, and it's a lot of times more difficult to motivate a child than it's for an adult. [Ikura2:100]

Although every statement parents make may not be documented, Ikura had an entry such as the following to indicate what the patient's parent was instructed to do at home by other therapists. "Mom reports EI therapists have told her to do prom of b[ilateral] ankles" [Artifact Pt #8].

The parents in Ikura's most successful case were scared, upset, and didn't have much knowledge about the child's condition. Thus Ikura believed that it was best to ask the parents directly about their needs, wants, and their willingness and capabilities in order to direct her interventions towards the patient and the parents' goals (Factor sort #3).

> And you just needed to say, "OK. Where do you want? What do you want your child to be able to do? You are the one who's going to be taking this child home. You are the one who needs to take care of them. What are you capable of doing? What do you think she is going to be capable of doing?" [I] know she wants to go back to school, stuff like that, so in that way, helped us with the school stuff, helped us even cognitively working together with OT and just trying to do handwriting, things like that. But …a lot of times with the family, I just come out and ask, "What is your goals for this? I know this is a devastating event and traumatic to you but what would you like to see out of this, and how can we help to bring those goals?" [Ikura1:128 - 137]

Ikura was confident in her decision to send this patient to the rehabilitation service before going home from the hospital.

> [W]hen she left, she definitely needed rehab, and I think it would definitely be disservice for her not to have it. Even emotionally and everything, she needed to have that rehab. I think she would have been sent home, it would have been a huge safe issue, and she wouldn't have been where she is right now. [Ikura1:97 - 99]

Once the patient was discharged from the hospital to home, the level of family support could determine the quality of life of the patient. When asked what kind of support the family or a friend could provide for the patient, Ikura responded: "Provide like, cleaning, walking, cooking, any of the ADLs [activities of daily living] or just to be able to enhance functional mobility and improve their quality of life" [Ikura1:227].

Ikura believed that if the patient does not have any family support and is unable to return home safely by himself or herself, then it would be unsuccessful because nursing home placement would become the only choice. "Patient lives alone, no family, is now left-sided weakness, can't return home safely, needs 24-hour supervision, no one is there to help, so the patient ends up going nursing home" [Ikura1:483].

Health Care Teamwork

Ikura acknowledged the importance of teamwork in the context of working in a hospital setting in order to maximize the effect of her physical therapy intervention beyond the formal physical therapy treatment session.

> I think when you are up on the floor, and a lot of times…the nursing staff either doing everything for the patient or not helping the patient enough, and when you do everything for a patient, they are not learning anything…you are not making them work and achieve the goal that you may have in therapy. I mean you have to work together as a team. And if you don't have that…you are only getting therapy 45 minutes a day. And that's not going to make a difference in a long run, I mean you need that carry over and everything else. So whether you see a nurse doing too much for the patient or not doing enough and saying, "Go figure," stuff like that. Sometimes patients need more guidance than others. [Ikura2:53 - 58]

The interdisciplinary discharge family care rounds were documented abundantly in both charts that were reviewed (Artifact Pt #8 & 9). Ikura documented the other discipline's recommendations that were relevant to her treatment session. "Wound care recommending diaper not to clasped shut to allow air into the area and decrease excessive sweating therefore did not get pt [patient] OOB [out of bed] today" [Artifact Pt #9].

Interfering Factors for Successful Patient Outcomes

Ikura illustrated three major factors that might interfere with successful patient outcomes. They were comorbidities, a lack of patient motivation, and a lack of health care access.

Patient's Medical Status

In her unsuccessful case, Ikura described her patient as a 62-year-old man who was Human Immunosuppressive Virus (HIV) positive, with hepatitis C, end-stage liver disease, and end-stage renal failure. His physician recommended he walk, but he needed physical therapy. During a PT session at this patient's bedside, he remained nonverbal but able to follow commands by nodding and performing manual muscle testing properly. He transferred from his bed to a chair with supervision upon receiving instructions on proper transfer techniques from Ikura. Ikura continued to state why it was perceived as an unsuccessful case.

> We started to do therex [therapeutic exercise] and all of the sudden he became unresponsive. He ended up expiring. But at the time to me it was unsuccessful in that I was by myself in the room, yelling for someone, and no one came to help me. And this guy, he was 6 [foot] 2 falling out of chair, I was holding and I could not go out to find help, I couldn't take his vital signs because I was by myself. So...he supposed to have a pulse

> when we called the code but later he expired. He had DNR [Do Not Resuscitate]. So to me that was unsuccessful in that because he expired. [Ikura1: 347 - 353]

In the above case, Ikura believed that his comorbidities were the main interfering factor for a successful outcome.

> He was a very ill man, so my outcome for him was just to get him to the point where he could return home. I know the family, and that was because his family wanted him to return home. I don't think he could have been able to tolerate rehab just because he had so much stuff going on. [Ikura1:372 - 374]

When asked about this patient being hypothetically younger, for example, 20-years-old, Ikura stated that her expectations would be higher for a younger patient. "I'll probably expect more of him. But I still will follow my principles of what I think is successful and go down that list to achieve those goals" [Ikura1:407 - 408].

When Ikura talked about decreased cognition as an interfering factor, she gave the following example.

> Let's say, you have a stroke patient that has left-sided neglect or something like that as a safety issue…they are unable to overcome that neglect and there are risk of falling, and it seems like no matter what you do…you just exhaust all your treatment strategies, and everything, I guess, that's it. [Ikura1:560]

Patient Motivation

Ikura stated that she would be frustrated when a patient is not motivated. She gave an example of a patient who appeared not motivated.

> [I]f I walk into a room and…I introduce myself, I tell them why I'm here for I want to get you home faster, and they are just like, "I'm weak. I don't want to do anything. Leave me alone." Or "I just had a bowel movement, I'm not doing anything." Or "I don't care where I go, nobody cares," or "Look at me now I'm just going to be stuck in a wheelchair." [P]eople can't look in the positive side of things and use us to their advantage. [Ikura1:489 - 495;496]

Ikura stated that she utilized various strategies to improve the patient motivation level, such as rewards or humor, but she was also aware of her limitations in some cases. "A lot of patients are depressed…nobody wants to be in the hospital, that's why we want to get you out" [Ikura1:499 - 500]. "You can't make somebody do something. And that's what's really hard. You are here to help, but if somebody refuses, it's their right to refuse" [Ikura1:517 - 519].

Lack of Health Care Access

Ikura stated that the interviewer's questions involving hypothetical situations, such as a different insurance coverage, triggered her to consider insurance as a potential interfering factor for successful outcomes. Although she treats everybody the same regardless of their insurance coverage, she was aware of the difference the insurance coverage would make for the patient's follow-up care, such as acute rehabilitation or outpatient care. She gave the following example to illustrate the potential consequence of a lack of health insurance.

> [I] had a patient who doesn't have insurance, self pay, 18-years-old, gun shot wound that having some nerve damage, not sure exactly sure what's going on, but she's got foot drop, and she needs a MAFO [molded ankle foot orthosis]. And I called around, and that I came down to two places, and one place wants once she gets the insurance, then give me a call. The other place that said, " if you do us a favor and you send more people to us, then we will do this pro bono"...You don't find [free service] very often. And that the patient really needs that, but what do you suppose to do at this end. [Ikura1:537 - 541]

Ikura admitted that there was a limitation in her knowledge about insurance issues. "I don't know even Medicare and Medicaid, they have to be seen seven times a week or versus five times" [Ikura1:554].

Although it wasn't a major factor, Ikura stated her indescribable feeling about the younger male patients' uneasiness towards her due to their age proximity. This is an instance where age proximity, one of the social congruencies, could adversely affect the therapeutic relationship.

> In my experience, with the younger males [smiles] that are more closer my age, I know that sometimes though, like I don't know how to explain it. I don't know if I just have a feeling that maybe they feel little more uncomfortable with me, but I haven't...I guess depending on the feeling dynamics… it shouldn't be a difference. [Ikura1:171 - 172]
>
> But I think the only thing as different is me being young and closer to their age, sometimes, I mean maybe I'm just perceiving that and that's not true. But I always try to make sure that trying to make them feel as comfortable as possible. [Ikura1:177 - 178]

Perceived Influences in Ikura's Belief Formation

Definition of Successful Patient Outcome

When asked, Ikura defined a successful patient outcome in the following manner. "Basically achieving patient's personal goals, making the patient safe to return to wherever they are going or achieving the goals to get them into rehab facility or skilled nursing facility in the same fashion" [Ikura1:319].

During her second interview, Ikura started to state the practice-setting specific outcomes, then she appeared to see the core ingredients to facilitate successful patient outcomes in diverse practice settings.

> I think in acute care, we are looking at more of getting patients safe to go home and outpatient orthopedic was more you just gain the patients, I see on both, more functional, I can see a little bit of both because…you are trying to make patients functionally independent and that's for both acute care and for orthopedic. Yes, orthopedic you might be little bit more rigorous, and you have more freedom in what you can do compared to acute because they are, they are sick. [Ikura2:90]
>
> [I] think a lot of them are the same. I mean you have to have the motivation, you have to have the knowledge…there are…two totally different things, but a lot of times you have to look at the patient as a whole and all those little things make up that one patient. [Ikura2:91]

Ikura stated her role as a physical therapist in her current practice context. "My role now is to make a patient as…functionally independent and safe as possible in the environment" [Ikura2: 245].

PT's Professional Experience

Ikura stated that her beliefs about successful patient outcomes has not changed much since she became a physical therapist.

> I think it's [the definition of a successful patient outcome is] pretty much what I was thinking. I think with experience you definitely learn, what a patient's success to them is and safety is always the number one key factor. [Ikura1:322 - 323]

One of the influences on Ikura's beliefs about successful patient outcomes came from her observation of one of her clinical instructors (CIs). Ikura experienced the need for understanding the patient in order to make her intervention most effective.

> [M]y CI was very intimidating to me, and I noticed to some other patients, he was so bright, and I mean the jargon that he used, the patients didn't understand everything, and that time I didn't understand half of the stuff he was talking about either, so…I did learn something from that in that… you have to talk down to the patient's level. In this area, maybe a patient's education is only up to eighth grade, I mean you don't know. [Ikura2:65 - 66]

Another CI gave her the opportunity to be more self-sufficient as a student physical therapist. She felt that it was important in her preparation to work at her first job--being on her own. After Ikura started to work at her current site, she continued to receive influence from her colleagues on her beliefs about successful patient outcomes. "There is always somebody to ask questions to and to find out, 'OK, well you had success with this patient, how did you go about?' So definitely colleague help makes a big deal" [Ikura2:29 - 30]. When asked what Ikura could do to further facilitate successful patient outcomes, she replied with her need for continuing her own learning. She valued learning through experience as well as through her colleagues.

> Continue my knowledge. Go to continuing education courses. Continue with degrees and maybe not just PT-based degrees but other things that can help integrate with each others. Attending inservices and giving inservices. Sharing experiences with colleagues and asking colleagues for advice because… you go to school for 5-6 years, but it's all experience. You learn so much more experience than you do in school. It's amazing. [Ikura2:253 - 259]
>
> Take advantages of all the learning experiences. [W]e have inservices, take advantages of going to surgeries so, when you are treating a patient, exactly what went into it prior to seeing the patient. Ask questions. Rely, lean on your coworkers if you need to everybody. And that's the reason why we have close team and…everybody knows a little bit about something that really help[s] somebody else out. And everybody is so willing to offer their advice or their experience, and that really makes a difference. If you are some places where you are the therapist by yourself, what [are] you going to learn? What you know is what you know, and there are so much more out there. [Ikura2:276 - 283]

Ikura also mentioned how diverse her clinical experience has been at her current work-site. She reflected and postulated that it might have helped her to be more open-minded and possibly more successful.

> Oh my goodness. I had no idea what I was getting myself into. [E]ven if you just look at the ICU [intensive care unit] and knowing that there is like cardiac and pulmonary, there is the burn, there is the surgery, there is the trauma, I mean it's just, the amount of people, even just the ethnicity, I mean…to be completely honest, like where I lived, where I went to college, it was just…Caucasian environment. I never had experience with every different cultural background. I don't know if that so much lead to success, but for myself it definitely opened my mind to a lot of different things, and maybe in a way it has lead to successful outcomes, because I've been more open-mind about things and but it totally opened my eyes to things. Even just because of this area and like the amount of the trauma cases that I see and the crime…If I were home…my big thing would be some guy coming with a heart attack or just something like that. What happened here—it's just amazing. [Ikura2:401 - 408]

PT's Personal Experience

When asked what types of comorbidities Ikura was most concerned with, she mentioned her father's experience of heart attack. "[I] have personal experience that I most concerned about MIs [myocardial infarctions] or something like that. And that's just personal experience, because my father just had a heart attack" [Ikura1:455 - 456]. With her father's heart attack, Ikura gained a better understanding of the disease as well as the recovery process. This understanding gave her a little more strength and comfort working with those suffering from life threatening diseases, such as heart attacks.

> [I]t happened…3 weeks ago, so it's been a personal thing that, no, but it's definitely opened my eyes. Before when I saw like, "Rule out MI" I was always more afraid that, "Oh I don't want to see that patient, they are going to have a heart attack in front of me." Now that my dad had a heart attack, it almost made me understand that this is OK. They are going to be OK. So it really opened my eyes in little ways that making me comfortable now working with more cardiac patients. [Ikura1:474 - 478]

Ikura stated that her prior work experience in teaching aquatics to clients with paraplegia gave her some insights into how to motivate people.

> Going back to trying to motivate…I learned a lot of good little ways to get around things when people don't feel like doing things. What works and what doesn't work. Many people that I've had a lot of times, "This hurts or that hurts, what can I do?" And having the knowledge base that I started to have going to school. I found myself more open to wanting to be able to answer things than people are realizing before. [Ikura2:216 - 220]

Factor Sort Result

Although Ikura started writing the factors that facilitate successful patient outcomes with *motivation*, followed by *social support*, in the process of ranking them in the order of the most important to the least, *social support* came up as the most important factor that facilitates successful patient outcomes. Ikura's factor sort was noteworthy in that all factors, except for *insurance,* were patient-oriented factors.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Social support*	*Comorbidities*
2	*Motivation*	*Social support*
3	*Personal goals*	*Motivation*
4	*Cognition*	*Insurance*
5	*Prior level of function*	*Cognition*

Potential Researcher Bias

The interviewer's unfamiliarity with pediatric practice might triggered her attention to Ikura's common interactive strategies, such as the use of rewards. Ikura stated that she was the youngest among the participants during her interview. The fact that she was the youngest made the interviewer sensitive to her discussion on age issues, such as her perception of the younger male patients' perception of her.

When Ikura listed *insurance* in her factor sort on interfering factors, she mentioned that she added it because the interviewer made her aware during the questions related to hypothetical cases. This fact made the interviewer reflect on the potential influence that occurs during the interview session (Reflective memo 5/8/03).

Conclusion

Ikura believes social support, particularly parental support, is the most important factor for successful patient outcomes in a pediatric service. Parental input can also be incorporated to promote the child's motivation as well as to individualize the treatment program uniquely to the home environment where the child returns. The PT's knowledge of the patient's personal goals, cognition, and the prior level of function are all important in order to motivate the patient successfully.

Comorbidities are considered the most significant interfering factor for successful patient outcomes. Other interfering factors were a lack of patient motivation and a lack of health access.

Ikura's definition of a successful patient outcome has not changed much since becoming a physical therapist. However, she recognized various professional and personal experiences that influenced her beliefs. The influences from her professional experience were her observation of her clinical instructors as well as the input she seeks from her colleagues at her current physical therapy practice. She values her colleagues' input and attempts to take advantage of all learning opportunities on the job. Her personal experience that influenced her beliefs were her father's illness and her previous work with people with disabilities.

Interviewee Summary
Kaki: "Ultimately her (the patient's) success is up to her (the patient)."

Interview Dates:	5/6/03	6/4/03
Interview Time:	2:00 – 3:00 pm	2:17 – 3:00 pm
Interview Location:	Outpatient treatment booth at Kaki's clinical practice site	

Interviewee Characteristics

Kaki is in her early 20s and currently works as a Staff Physical Therapist at a large Trauma Level I teaching hospital with a total of 2 years of clinical experience. She describes herself as a certified lymphedema therapist and currently splits her day between pediatrics and an outpatient lymphedema program. She received her master's degree as an entry-level PT degree and has been enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. As a young athlete, Kaki had experienced various sport-related injuries but never received physical therapy. She has not had any significant experiences as a caregiver for her family members. Other demographic data indicate that she is White, married, and expecting her first child, and her religion is classified as none (Demo form 5/6/03). Kaki was the first interviewee to bring her signed informed consent, her demographic data form, and her resume to the first interview session (Reflective memo 5/6/03).

Coding Characteristics

Among 17 axial codes, 14 axial codes were used to code Kaki's first interview, while the second interview was coded with 13 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Kaki's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were two major concepts that Kaki illuminated throughout her two interviews. They were patient's psychosocial status and medical status. For each concept, Kaki's quotes are used to illustrate its meaning and application in her actual patient care.

In her narrative of her most memorable successful case, Kaki described her patient as a woman with right upper extremity lymphedema secondary to breast cancer treatment. Kaki treated this patient for approximately 2½ months initially five days per week, then reduced to a few times per week in frequency. Kaki stated that it was a successful case because the patient progressed from approximately 60% lymphedema to 15% lymphedema in volume measurement and was discharged with compression garments. According to this patient's care note, she had a mastectomy, an axillary node dissection, radiation, and chemotherapy approximately 6 months prior to admission to the lymphedema outpatient program. Her chief complaint was cosmesis. There was no significant past medical history. She was referred by her physician with a prescription stating, "Lymphedema Eval and Tx." With a total of 14 sessions in 31 days, the patient achieved an overall reduction of 44% edema in her right upper extremity. The compression garments (the sleeve and the glove) were measured by Kaki and received by the patient for home use (Artifact Pt #2). In addition, Kaki's lymphedema outpatient charts that were reviewed contained a preprinted philosophy of the lymphedema program that emphasizes the need for patient commitment. There was also a no-show/no-cancel and lateness policy that was singed by each patient at the initiation of the program (Artifact Pt #1 & 2).

Patient's Psychosocial Status

When asked what contributed most to her most memorable successful case, Kaki stated that it was due to the patient's commitment to the program.

> Her commitment to the program. I think with me really instilling the fact that ultimately her success is up to her. And I can only do so much and show her so much, that it really was her commitment to the program because not everybody gets phenomenal results like she did. [Kaki1:71 - 73]

When asked how Kaki was able to see this patient's commitment, she replied:

> She came every appointment; I think she missed two appointments due to like side effects of chemo [therapy]. And she brought her sister in to learn how to bandage. And she picked it up really quick. She had a lot of questions for me, which always shows that people are thinking about what they are learning. [Y]ou could see her dedication by coming every time. [Kaki1:76 - 80]

The patient's commitment also implied that she did not give up too early.

> If patients have willingness to be able to…put up with the garment, the compression bandages, and tolerated for a little bit, and they'll find out that it's not too bad and they can be a little bit committed. Other people don't have that and they give up very quickly. [Kaki1:170 - 171]

Kaki addressed the need for both the physical therapist and the patient to have patience with the progress that would come with their commitment to the program.

> The patience has to come from the patient because I think that they, "Oh gosh, I finally got the treatment for this," and they want me to blink my eyes or twitch my nose and be like a woman from the Be Witched and have their edema be gone. And just being patient about their edema reduction, it's going to come but may come slowly and really stick with it because it does work. And also my part, so I don't get frustrated by them. Sometimes the patients do tend to be very needy and just be very patient with them. [Kaki1:213 - 216]

To the question of whether the importance of a patient commitment could be generalized to other patient populations, Kaki replied:

> I think as a therapist, you can only do so much for patients and, if you are not educating your patients, you are not doing them any service. Because it's ultimately what they are going to do on their own. And what they learn from you and if the patients are not committed to following through with their home exercises, they are going to be back to square one... [Kaki1:84 - 86]

In addition to the patient commitment, patient motivation and willingness to learn seem to be viewed similarly. Kaki described what she meant by patient motivation in the following excerpt using her lymphedema outpatient program context. "Showing up to every visit, having a positive attitude when you come, just overall enthusiasm towards therapy" [Kaki1:146]. Kaki continued to describe that the patient motivation level could be changed by Kaki's interventions as well as by experiencing actual positive progress in therapy.

> You could see in their face, especially when you really start to describe how long they have to wear the compression bandages, a lot of people have that "Oh my God" kind of face, and then some people you can see them like cognitively going, "OK well this is something that I have to do blah-blah-blah." And you can see in their face the acceptance and you can see other people with "Oh my God" face and it stays…You definitely can see that. And you can see motivation when people start asking questions. I think the motivation goes up when they realize how well the edema reduction is going. [Kaki1:148 - 150;152;155]
>
> I think if I show how committed I am to them, and come to them with a positive attitude during the initial evaluation, and show them that there are positive results, I think that people tend to have a little bit more motivation, but I think motivation is very much a personality trait. [Kaki1:164]

Kaki described what she meant by willingness to learn in her practice context in the following excerpt.

> To learn about lymphedema, learn about why they have lymphedema, really understand the facts of what can make it worse and what can make it better. And…I'm telling them not only from the pathology part of it but also care part of it. Because if they are not willing to learn how to self bandage, or how to do their self-MLD [manual lymphatic drainage], or how to do their exercises, what I'm doing for them is going to do diddly for them because it's a life-long thing, and if they don't learn how to take care of it for the rest of their life, I'm not going to be there 24 hours a day, [laughs] as much as I like to be. [Kaki1:180 - 182]

Kaki implied that she could predict the outcome from how much attention her patient would pay to her during the first session. "[B]ecause I'm teaching from day 1 [laughs], so I can tell somebody is paying attention. When they are not paying attention, they are…staring off in the space, I know it's going to be a long route [laughs]" [Kaki1:189 - 190].

Although pediatrics and adult acute-care practices were often distinct practice settings, Kaki was able to see some common threads in the care of these two distinctive age groups, pediatrics and geriatrics.

> I think in an acute care…dealing with the elderly, dealing with the ped[iatrics] kids are very similar. I think a lot of people are scared by pediatrics because they think, "ooh, kids," but I think if you can deal with an elderly patient, you can deal with a child. And…if you might get temper tantrum and need to have to handle that, but you may get that with the adult too sometimes. But I think the one thing that I take to pediatrics that I may not take so much over here [adult acute care] is I am a little bit more silly over there. [Kaki2: 232 - 235]

Kaki acknowledged the physical therapy could go beyond physical means and physical outcomes.

> Actually both these kids are in chest PT bed, the bed that vibrated and it would go off, so it would make a rhythm, and I would dance around the room with the rhythm of the shaking bed. And I don't think I can do that for an adult over here, but I'm able to use my personality in such a way that I make him laugh, and…maybe I'm not getting his arm any higher everyday, but I can bring a smile to his mouth, that's in some way more therapeutic than anything. [Kaki2:240 - 241]
>
> And I think over there [in pediatric hospital] I'm a little bit more free to be stupid and silly and just kind of goofy, not that I'm not over here, but it's a little bit different. And I think humor and that runs the gamut from 90-years-old to 2-years-old, just a matter of how you tweak it. [Kaki2:243;245]

Patient Medical Status

Kaki listed cerebrovascular accidents (CVA), congestive heart failure (CHF), and other heart diseases as examples of comorbidities that would complicate the lymphedema reduction. She emphasized the physical therapist's role in providing the patient with an accurate view of the patient medical status and appropriate expectations.

> Just making sure that the patient is aware of what comorbidities can make it difficult for their edema reduction, to really give them a realistic view of edema reduction, somebody who had CHF really trying to tell them, your results would be there, but may be minimal and may take longer time. And it's also a challenge when they don't, when you have to tease comorbidities out of people, because people don't always realize what you are asking when you are asking about past medical history. And you could be massaging someone and just generally chatting with them and all

> of a sudden, “Yeah, I went to see my cardiologist,” well…so just trying to gain information about comorbidities in different ways. [Kaki1:198 - 200]
>
> Somebody that has a greater stage of lymphedema, somebody that has stage 4, or elephantiasis, it’s more difficult to get those good results with them, so definitely makes it hard to get the results that you want with when their severity of their pathology is worse. [Kaki1:203]

Although Kaki did not list the health care teamwork as a facilitating or interfering factor for successful outcomes, Kaki postulated that without good teamwork with her referring physicians, the outcome might suffer negatively. The following is Kaki’s response to a hypothetical scenario of having an unfamiliar referring physician whose practice was far away from her practice setting.

> It would be more difficult on my part because we rely a lot on prescriptions for treatment and also for the bandages and for the compression garment. [T]hat will alter the patient outcomes because if we don’t get the scripts, be able to get the supply that we need for the patient, it could delay the outcomes definitely. [O]ur doctors are very diligent in getting us what we need right away. [Kaki1:107 - 109]

Kaki’s patient charts have numerous examples of her good relationship with referring physicians. The majority of her requests for treatment prescriptions as well as other supplies were followed up by the referring physicians promptly and accurately (Artifact Pt #1 & 2). Kaki’s diligence was also evident in the numerous entries of letters for medical necessity, work modification recommendations, and the correspondence with the insurance companies and medical supply agencies (Artifact Pt #1 & 2).

Interfering Factors for Successful Patient Outcomes

All the interfering factors that Kaki discussed were the same as the facilitating factors described above in the opposite dimension, except for *misinterpretation of the facts*. Thus, the following section will be focused on Kaki’s unsuccessful case that included this interfering factor.

In her narrative of her most memorable unsuccessful case, Kaki described her patient as a 41-year-old female who worked as a nurses’ assistant at Kaki’s current facility. This patient presented with left lower extremity lymphedema secondary to cervical cancer treatment. Her chief complaint was pain, decreased cosmesis, and decreased ability to perform her ADLs (activities of daily living) and work. Her past medical history was not significant. According to this patient’s chart, two physicians wrote lymphedema evaluation and treatment orders. Kaki planned to meet with her five times per week, but in reality she was seen four times per week for 2 weeks, then one to two times per week for 7 more weeks. At her discharge, 62.4% edema reduction from the initial volume was noted (Artifact Pt # 1). When asked how Kaki treated this patient, she provided the following response.

> [H]er case was a little bit more different because she kept complaining that the bandage is sliding down during work. She didn’t want to wear the

> form padding which made it less likely for the compression bandaging to fall down. I explained that to her over and over again. [S]o she complained about compression bandaging, she never wore at work, she told me she was bandaging at night, so ended up getting her a MediAssist, which is a substitute for compression bandages. It…looks like a knee immobilizer but it comes all the way up to the groin area all the way down to the ankle...with Velcro strap, it also had the compression gradient in it. And she wasn't consistent with that either. She kept telling me that stuff didn't fit inside the clothes and yeah, I would go out and get bigger clothes, and she never did. [Kaki1:286 - 292]

Kaki provided an example of *misinterpretation of facts* (Factor sort #5) in the above unsuccessful case. Kaki realized that her patient's new onset of pain lead Kaki to believe there was a need for a further medical work up for a potential recurrent malignancy. She initially believed that her patient had been faithful to the program, but later she concluded that the negative outcome was the direct result of the patient's lack of adherence to the program (Artifact Pt #1). When asked how she would learn about her patient's lack of motivation and commitment, Kaki responded with her observations unique to lymphedema outpatient sessions that might be longer than the ones in the general orthopedic outpatient service.

> Usually… if I schedule an appointment with them, they will call that morning of and "I don't feel good" and then "OK when can I see you next?" "Oh well I'll call you." Then you don't get a phone call, or you set up an extra appointment and you don't get another phone call, or they come and…" I can only be here for half an hour." And not really willing to stay for the extended period it takes for your treatment. [Kaki1:359 - 362]

In her patient care note, Kaki showed her concerns about her patient's compliance when the clinical presentations were unexpected and undesirable that included increased pain and edema. Kaki informed her patient that lymphedema is usually pain free; in other words, something was wrong (Artifact Pt #1).

When asked what she learned most from this unsuccessful case, she replied:

> I think I learned that as much as you believe your patient that you should take what they say with grain of salt, because…for a while…she had me. Yeah, she was doing this and that, and I bend over backwards for and she wasn't. I figured she wasn't doing it. So just to really try analyze the situation a little bit more and use more probing questions. [Kaki1:298 - 301]

Kaki responded to the question of what she would do differently in similar cases in the future. "I would give her an ultimatum. Either you do this or you are wasting my time. And I really didn't do it with her, I didn't confront with her the way I should have" [Kaki1:352 -353].

Perceived Influences in Kaki's Belief Formation

Definition of Successful Patient Outcome

Kaki defined successful patient outcomes in the context of the lymphedema outpatient program.

> I define them [successful patient outcomes] not only by their improvement in their function, but by patient's report, because I'm not the one living with their problem. And if…they only lose 20% edema but the patient is psyched because now they can bend their elbow, and they can bend their wrist. Well that's a great outcome for them, I kind of gauge it on the patient's report. [Kaki1:222 - 224]

When Kaki was asked whether she would have a good sense of what her patient would have wanted during the first session, she replied:

> [T]he most of the ladies, their goals have a lot to do with cosmesis, "I want my arm to look better." I have a wedding to go to and I want to wear this dress or, I really want to wear my rings again or, I want to wear my watch or…they do have a lot of goals because they've been living with it for a while. And not only they have been living with lymphedema, they've also had to battle breast cancer, so I mean, they have a lot of goals. [Kaki1:226 - 228]

PT's Professional Experience

With respect to the influence of her various professional experiences on Kaki's belief formation, her clinical experience impacted much more significantly than any academic education she had ever received. Although there was no specific incident or encounter that she could recall, Kaki acknowledged that her beliefs changed over time. She attributed the change to the difference in emphasis placed on tests and measures during her academic education to her learning on the job in her clinical practice, working with various patients and experiencing both successful and unsuccessful situations.

> I think it [my beliefs about successful patient outcome] changed. I think when you are in your school, they focus so much on tests and measures and using this test to show that they can walk this far or that they can move their leg this much, and I think they are great and everything but if the test or measure shows that they are successful but the patient still is angry because they can't use the bathroom on their own, that's not to me is a successful patient outcome. [Kaki1: 233 -235]

The change appears to be in progress from the following statement. "I'm really trying to find the medium between tests and measures and what the patient's telling me. It has a lot to do with experience too" [Kaki1:236]. Kaki appeared to consult her patient data base in her brain for both approaches and outcomes of her new patients.

> [I] think when you are fresh and new, you are not sure what to expect, but when you see the same type of patients over and over again, you can kind

> of gauge, well I had this patient, did this well, and I had this patient that didn't do that well. You can kind of use your prior knowledge to kind of gauge patient's success too. [Kaki1:238 - 239]

Kaki described how she perceived her current practice environment, such as patient population. She recognized her need for understanding her patients' various needs and wants.

> [W]hen I first came…I was in a little bit of culture shock, not necessarily, I treat everybody as a person no matter what, but I think it takes a little bit while to realize why don't they have this, and why can't they get this. Like health benefits, resources, what we can get for them. I think I'm just used to being able to get things [such as medications] readily for myself or for my family members, that with coming to a different type of economical area, that…took some time to really realize that unfortunately, that's what happens. [Kaki2:297;299 - 300]

Kaki acknowledged the existence of health care disparity in her practice environment.

> And as far as resources, like why they can't go to a rehab, why they have to go to a SNF [skilled nursing facility] or why they can't go to a SNF and why they have to go home or, why can't they get home PT? A lot of our patients, we'd love to send them home with home PT, but in their real world, no home therapist is coming to North Philly. [Kaki2:308 - 309]

With her own experience, Kaki described her progress as a professional in the following excerpts. Although she doesn't have extensive years of clinical experience, she could contribute significantly to other colleagues and students, particularly as a lymphedema specialist and in pediatric care.

> I think I'm a little bit more aggressive. I'm not that as timid. I'm a little bit more confident. I think I now find myself as one of those people that can be used as a resource. People come to you now with questions, which is nice. [Kaki2:274 - 278]
>
> I think that with my experience, I think I learned that [what's good for the patient]. Success is different for each person and measured individually. What's successful for one person may not be successful for another. And I think a lot of patients have their own theory of success which is not necessarily always in line with mine. And I think, I find myself now versus back then being confident in myself to be able to discuss why my level of success is higher than theirs, and what their potential is…to achieve it, and why I feel that way, whereas the day 1, I might have been more likely to let the patient get away with their levels of success. [Kaki2:281 - 285]

In addition, Kaki valued her colleagues' collaboration, which promoted her further learning skills and knowledge from other's expertise.

> [I] think the biggest reason that made me want to give my resume here was the camaraderie with the staff and the support that everybody has. We are rather large staff, but not everybody is expected to be an expert in every single thing, and I think that we have such a plethora of people's experiences and knowledge and what their expert[ise is] and that makes me feel comfortable to come back to my colleagues and have any questions and know that I'll be answered in a professional manner and not kind of talked down to. [Kaki2:41 - 42]

Among various colleagues, Kaki specifically talked about her mentor who was assigned to her when she was newly hired at the current practice site.

> That's not only about the medical stuff but certain questions on how to motivate a patient. This patient is not doing this and I'm trying everything. You had this many years of experience. What can I, what can you give me. [Kaki2:62 - 65]
>
> And at least in my experience, the person who was my mentor is somebody that I can still go to with questions and concerns probably not as often. But definitely turns, it goes from being a mentor and turns more into symbiotic equal relationship over time that, it's a nice relationship to have fostered in the beginning. [Kaki2:76 - 77]

PT's Personal Experience

Kaki described how growing up as an athlete contributed to her beliefs and approach in her practice.

> I think with being a pretty driven athlete as a young child, you get a certain ethic, work ethics, and I think that what instilled in you in sports is great but it's not necessarily applicable to every patient case scenario. And I think you have to kind of tone down a little or mow it a little, because that 'no pain no gain' philosophy comes from sports is not necessarily the best philosophy to have as a therapist, but definitely gave me the confidence to push people, but not necessarily push them so far out of their range. [Kaki2:165-166]

Kaki also described her mother's influence in forming her holistic view of a child that could be applied to a health care professional's practice. She also stated that she chose her physical therapy school that was based on the philosophy of Humanics, the view of a person as a whole--in spirit, mind, and body (Kaki2 & Artifact A).

> My mom is a special education teacher. And just with her experience with kids with disabilities and what she brings home, the story she comes home with, I think that she gives…the paint the picture of the whole child which really instilled in me, thinking of the whole child, not just everything. [Kaki2:175 - 176]

Kaki also mentioned her friend's death when she was in high school. Kaki's empathy was further strengthened through a visit to her friend in the hospital and experiencing her end of life.

> The other thing, the thing that really drove me to be a therapist was when …I was befriended with a young child, she was like 5 at the time, I think I was a junior in high school, who was diagnosed with cancer and ended up passed away. And I think that was my big motivating factor to become a health care professional in some way shaped and formed. [Kaki2:177 - 178]

Factor Sort Result

Although Kaki started her list of the factors that facilitate successful patient outcomes with *commitment*, followed by *motivation*, in the process of ranking them in the order of the most important to the least, *commitment* came up as the most important factor that facilitates successful patient outcomes. Kaki's factor sort was noteworthy in that all factors, except for *the misinterpretation of facts*, were patient-oriented factors.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Motivation*	*Lack of commitment*
2	*Commitment*	*↓ Motivation*
3	*Willingness to learn*	*Compliance (↓)*
4	*Comorbidities*	*Comorbidities*
5	*Severity of pathology (diagnosis)*	*Misinterpretation of facts*
6	*Patience*	

Potential Researcher Bias

As a lymphedema therapist certified by Lymphology Association of North America (LANA), the interviewer had some hesitations in disclosing her certification status to the interviewee. The interviewer thought that disclosing the certification status might create an atmosphere of presumed mutual understanding of the content and nuances specific to lymphedema care. In addition, the interviewer did not want to appear threatening or authoritative to Kaki either. By not disclosing, the interviewer hoped that Kaki would describe her cases and her beliefs without omitting crucial details. Immediately after Kaki's first interview, the interviewer decided to disclose her experience in lymphedema care to Kaki.

Kaki's successful case demonstrated that the patient's commitment and motivation matched with Kaki's successful application of clinical skills and knowledge. However, I perceived that Kaki learned significantly more from her unsuccessful case, and she reflected further by answering my follow-up questions. Kaki's unsuccessful case in this summary was an evidence of learning occurring in the clinical context.

Conclusion

Kaki believed that without the patient's commitment, motivation, and willingness to learn, the patient outcome will not be successful. Most of her responses were specifically related to her current practice settings, lymphedema or pediatric care.

Despite the patient's moderate edema reduction, Kaki described the patient as an example of an unsuccessful patient outcome. It was consistent with her current view of successful patient outcomes. She learned to give an ultimatum in future encounters with noncompliant patients like her.

Kaki perceived that her beliefs about successful patient outcomes have been changing. Although no specific incident or encounter was noted, the most significant contributing factors were her own patient encounters and sharing experiences with her colleagues. Kaki's personal experiences that influenced her beliefs were being athletic growing up, her mother's holistic view of children, and her school age exposure to her young friend's death.

Interviewee Summary
Koi: "One of my primary goals is to try to help the patient return to their prior level of function before they'd come to the hospital."

Interview Dates:	4/30/03	5/19/03
Interview Time:	2:00 – 3:10 pm	2:00 – 3:00 pm
Interview Location:	Outpatient treatment booth at Koi's clinical practice site	

Interviewee Characteristics

Koi is in her late 20s and currently works as a Staff Physical Therapist at a large Trauma Level I teaching hospital with a total of 2 years of clinical experience. She states that she has been rotating through the acute-care hospital services and is currently assigned to the neurology service. She received her master's degree as an entry-level PT degree and has been enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. She stated her involvement in various types of student education, such as being a preceptor for PT clerkships. She hasn't had a significant personal injury experience or caregiving experience for a family member. Other demographic data indicate that she is White, married, and her religion is classified as Protestant (Demo form 5/19/03).

Coding Characteristics

Among 17 axial codes, 12 were used to code Koi's first interview, while the second interview was coded with 14 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Koi's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three major concepts that Koi illuminated throughout the two interviews as important facilitating factors for successful patient outcomes. They were patient motivation, family support, and promoting success through the PT as a teacher.

In her narrative of her most memorable successful case, Koi described her patient as a 52-year-old man from Cuba with Guillain-Barre syndrome. It became the most memorable successful case for her because of the patient's superb motivation augmented with excellent family support, despite the acuity of the illness and language differences. Koi's tone of voice indicated how exciting it was for her to work with him and see him improve day by day.

> [W]hen I first saw him, he was basically unable to move any of his extremities, he was on the ventilator, he was following simple commands maybe 20% of the time. And as far as being a successful patient outcome, it was just a wonderful learning experience because I worked with him throughout his time here, and he progressed from the intensive care unit all the way to our rehab program, and it was just really nice to his return. He was very dedicated, very motivated gentleman. He also was not originally from this country, he was from Cuba, so his English also was

> not the best, but he did have a great family support system and he left here, he walked out here with cane. So that was really…great to see him regain so much of his function. [Koi1:34 - 38]

Patient Motivation

Koi believed that this patient's inner motivation made a significant contribution to his success.

> Basically I really feel a lot of the patient's success stemmed from his own motivation. He is very motivated to get better. He is very hard working in therapy. Even in the very beginning when he was too sick to even tolerate that much, he was still expressed being happy to see me and knowing that I was there. And…I worked with him probably at the beginning maybe two to three times a week, and as his function improved, it went to five times a week, and then when he went to rehab program seven times per week. [Koi1:46 - 50]

Koi stated that there was plenty of evidence of the patient's adherence to the exercise program. For example, the patient was able to demonstrate his exercises back to her. But the most striking sign of patient motivation was illustrated in the following excerpt.

> [P]robably my best example was that one weekend, usually if you are not in the rehab program…not everyone gets rehab on the weekend, and he was so determined that he wanted therapy over the weekend, he actually had one of the nurses bring him down to the physical therapy gym. And then when he got down here, the therapist was saying he was not on the schedule. But he wanted therapy so badly and they were so great about it, they actually did treated him both Saturday and Sunday. [Koi1:196 - 198]

Koi acknowledged that patient motivation is the most critical factor for successful patient outcomes, but she also showed her understanding of the effects of acute illness on the patient motivation level (Factor sort #1).

> So if you are working with someone who truly does not want your care, your help, it really makes that much more challenging than someone who really comes to the therapy and sees the benefit in participating, even though I know that it's a lot when you are working through pain and sickness, and significant fatigue or what have you…but I know the patient that really participate, believe that they can get better, by far do better in a long run than the patient you really have to struggle with in a daily basis to get them to do a littlest things. [Koi1:174]

Family Support

In the above most memorable successful case, Koi described how dedicated the patient's wife and other family members were to his care. Koi believed that the patient would benefit immensely from his family's support not only physically but also psychologically during his hospitalization as well as after going home.

> [S]upport system is so important, especially I think in this type of setting [acute care hospital]. His wife came in every evening to visit him and his son…flew in from Florida. And what was nice was his son really was fluent with his English, and he helped our sessions a great deal because he was able to help me to translate a little bit better. And the fellow was very supportive, and a lot of times he was able to come with the patient to therapy…And I think that was nice for the patient as well to know that he had that kind of support, and nice to know that as you work with the patient and he eventually does go home, and if they still need help, there would be a good support system to get him that. [Koi1:56 - 60]

When asked what she could see as signs of good family support, Koi described the family's interest in learning about the physical therapist's goals, attending family training sessions, and bringing in necessary items for the patient's activities during his or her hospitalization.

> [A] lot of times the family will show us support by interested in learning about the role of the physical therapist, the goals have been set for the patient. A lot of times too, I need to talk to, the family that involved…wants to know where the patient, what is the next step for the patient. Sometimes it's not directly to home from the hospital and actually is to go for more therapy. Other patients' families are, some of them come for family training so that before the patient come home, so they are familiar with different types of assistive devices or where they can give a little bit of assistance in transfers or maybe guarding if needed, or where can be best stand on stairs to help someone. Families have also been very good at bringing clothes and sneakers for the patients. That makes a huge difference too, because patients feel better when they are actually in clothes not in the gown. And sneakers really make a big difference a lot of times in ambulation training. So having that kind of support is helpful. [Koi1:219 - 226]

Promoting Patient Motivation and Family Support Through Education

Koi emphasized the importance of patient and family education in the practice of physical therapy. Her education is aimed to optimize her patient's disposition decisions, safety, function, and to promote the patient's responsibility for their care (Factor sort #1, 2, 4, & 5). When asked what Koi would do when there seemed to be no mutual goals among the patient, the family, and the physical therapist, she replied:

> That's sometimes very hard because…you might work with a patient that you really felt as not safe to be discharged home. And I think in those specific cases, I spent a lot of time on education, and I try not only to speak with the patient, but as the patient is going home with family members, I also trying to speak with the family. [Koi1:104 - 105]

> At least more educated decision and sometimes even with all of that, they still want to bring the patient home, but at least, I try to do my best as far as educating. [Koi1:113]

Koi implied that ultimately the patient's decision would override any caregiver's in the following two excerpts.

> [W]e usually come to a mutual agreement, but there are times when there are people that really don't want the extra therapy, and they don't want to go to rehab facility, they want to go straight home. Then I…do the same thing, I educate them as much as I can. But ultimately it's the patient's decision. So if they chose not to go for additional therapy, then I try as best as I can to try to set up some services in the home…to see if we could get more family member involved to get their help, therapy services at home, special equipment, things like that. [Koi1:118 - 121]
>
> I think it's so important because of the therapist would primarily be teachers so you can really work with someone and show them how they can regain strength and or the function, but you can't make them perform your intervention. [Koi1:173]

Through patient education, Koi would empower and support patients becoming more self-sufficient in utilizing resources most effectively.

> And I tell them [patients] that they take their responsibility, that nursing is very busy, that they may not necessarily think about asking the patient if they want to get out of bed, but that is where patients have to ask for those things, if they need assistance to get out of bed. They should ask nursing that they want to get up. Then I…do the same thing, I educate them as much as I can. [Koi1:252 - 253]

Subsequent chart review showed Koi's consistent entries of patient education as an integral part of her physical therapy interventions. "Pt Ed [Patient Education]: progression of PT goals, safety awareness, fall prevention" (Artifact Pt #5). "Pt Ed: HEP [home exercise program], energy conservation, rehab goals" (Artifact Pt #6).

Interfering Factors for Successful Patient Outcomes

Koi believed that all of the facilitating factors discussed above were also interfering factors in the opposite dimension. They were a lack of motivation and a lack of family support. The following unsuccessful case was illustrative of both of these factors.

A Lack of Motivation

Koi described the patient as a man who was in mid 70s with congestive heart failure (CHF). He not only had poor *ability to participate in therapy* (Factor sort #3) due to his disease process, but also had a nonoptimum *support system* (Factor sort #2) which resulted in a nonoptimum *disposition* (Factor sort #5) that might have adversely affected his *motivation* throughout his hospitalization (Factor sort #1). In the following excerpt is evidence of Koi's acknowledgement of the patient in a complex social context rather than simply as a patient with CHF.

> [I] did work with a gentleman who was older, who came to the hospital because of the congestive heart failure exacerbation, and with fairly functional before he came in with getting around by himself, family came in and out his home just to check on him make sure he was OK. And when he came in, my goal was really to getting back to that functional level. [H]e had a lot go on during his time in the hospital which included renal failure and need to go on hemodialysis. And no matter how hard I tried, he really just became depressed, kind of gave up; he was a recent widower as well and I don't think that really helped, and I would have liked to have seen him kind of go back to his home, and in a long run what happened was he ended up going home with his family, not that wasn't successful, because they were taking him home, but the family was talking about selling the home and everything. He was just having really hard time struggling with that. And I think he did want to go home…but his functional level, he just needed too much assistance to go home safely. And he was a struggle as far as getting to participate and getting to find that motivation within to kind help him. [Koi1:357 - 363]

After describing the above patient's complex social context that coincided with the lack of motivation, Koi attempted to generalize what could be associated with a lack of motivation.

> [S]ometimes I see commonality as far as when there is a lack of motivation, there is a lot of other things going on. Maybe particular something else going on in their lives, like family situation, like this gentleman was newly widowed. Another commonality would be a patient with really severe medical problems, or really having to adjust to a new, new diagnosis, such as cancer, and going to chemo[therapy] or radiation, or new amputation; sometimes it's hard at the beginning and the motivation can be a challenge. [Koi1:404 - 406]

Koi expressed how she would approach a patient who didn't participate in therapy due to poor motivation. She would attempt to talk to and listen to the patient in order to understand his or her psychoemotional and physical state better. However, Koi did not mention possibly referring the patient to other services, such as a psychologist or a social worker.

> I think I really trying to sit down with them and have heart to a heart and trying to express them, I might understand where they are coming from, whether its angry because of the position of their currently in or just really depressed or sad. I try to maybe tell them where I am coming from where I think the potential that I really think they do have, the fact that I really willing to be flexible with them…if they tell me they would rather more of

> an afternoon person than the morning person. I try to be flexible as well and I kind of emphasize to them thought I can give 150%, but they have to …do the same thing because I can't just make them better…have to do the work in order to get better. [Koi1:179 - 181]

Koi continued her response stating that she would inquire about the patient's own goals in order to find a way to motivate the patient more effectively.

> I really stress team work. I always say it's a team thing that we really have to work hard together. And I kind also ask them what their goals are as well, because it's maybe something I haven't thought about and maybe that might serve as a more of a motivational factor. [Koi1:184 - 186]

Perceived Influences in Koi's Belief Formation

Definition of Successful Patient Outcome

When asked to define a successful patient outcome, Koi started her response with "my primary goals," while the interviewer was anticipating the description of the patient status.

> I would say in acute care setting, one of my primary goals is to try to help the patient return to their prior level of function before they'd come to the hospital. The other thing would be if they were discharged from the hospital to the most appropriate setting. So sometimes I'm not fortunate enough to follow the patient all the way through until they go home, because they are in a hospital for a short time and then they go to maybe a rehab setting or skilled nursing facility, but there is also a criteria to get into those programs, so another successful outcome would be to see a patient progress until they could transfer into a rehab setting to continue to work on their independence before going home. [Koi1:98 - 100]

Koi added the level of patient satisfaction as a part of her definition of a successful patient outcome.

> I also like successful patient outcome to be that the patient is also happy with the outcome. You know that patient's goal has also been met. [Koi1:261 - 262]

Professional Experience

Although there was no specific incident or encounter involved, Koi acknowledged her belief change during the last 2 years based on her direct patient care experience.

> [I]n the 2 years that I practiced my thoughts about successful patient outcomes has changed based on my…real patient care experience. When I came out from school, a lot of times I had this ideal in my head where I always wanted to see the patient achieve and being in the…real world and reflecting on other characteristics that…play into that, and people being different in having different situations and really appreciating how much

> that I can truly affect the outcomes that patient can achieve, that definitely something that changed with me. [Koi2:108 - 109]

Koi further expressed the value of direct patient care experience, distinct from hearing or reading about, in forming her beliefs about successful patient outcomes.

> I think reading about, hearing other therapist talk about, is rewarding but I think actually going through the process, being the one that actually… does the work, or is treating the patient. I just think the more experience you have that way really does influence your beliefs, because people are so different and it's hard to capture that when you are just reading one article about a certain group of people or a book about a particular population… [Koi2:223 - 224]

In addition to direct patient care experience, Koi was aware of the abundance of continuous learning opportunities at her current worksite.

> There is always rounds going on that if you can fit into your schedule you are able to attend. I don't limit myself to just the neurology rounds, because I do have other interests. So I do go to cardiology rounds. I also go to a cardiology journal club every other week. There is also even round or inservices within our PMR [Physical Medicine and Rehabilitation] department. So there is just always opportunity to continue learning. [Koi2:140 - 145]

Koi appeared to be able to take advantage of the above learning opportunities because of her autonomous practice pattern and teaching hospital culture. The following excerpt illustrates Koi's typical day.

> I have the luxury of making my own schedule, so I am kind of all over the hospital, I'm practicing in the ICU, on the floor at bedside with patients and also in the physical therapy gym, depending on where the patient is medically, their level of function. It is nice to gradually progress patients to the gym because it's a bigger room and you just have more room and more hands as well here to help them. As far as how many patients I see a day, that could also vary, it can be 8, it can be 15, that kind of depends. As I have my own schedule then, I also pick up new consults and do evaluations and I follow these patients typically until they are discharged from the hospital, or I discharge them myself because they met their physical therapy goals. [Koi2:119 - 122]

Koi also appreciated a diverse patient population that she served at her current site because it might have expanded her range of experience.

> I have the opportunity to work with the very wide patient population and definitely varied, so I've had the opportunity to see many unique situations, so I might, that my growth might be different where I really only work with one type of patient population with, they all have the same

> social-economic class, education, and I can definitely see how that would lead to different experiences. [Koi2:115]

Koi described various learning opportunities that she appreciated during her clinical internships. Through her direct exposure to the reality of a patient's living conditions, she started to learn that the ideals in her head, which were built mainly through academic education, may not be applicable in certain realities where her patients live upon discharge from the rehabilitation facility. The complex patient living situation was formed by not only the level of injury, the patient's age, employment status, and the level of family support, but also some unique home environments that Koi had opportunities to directly observe during her rotation in the spinal cord injury (SCI) unit of one of the rehabilitation centers.

> So that was very interesting…also being able to go into some of the patients' homes and trying to arrange their environment to make…an easier transition back home, which was really nice because it allowed you to appreciate how the patient function in a variety of settings. [Koi2:40]
>
> [A} lot of patients I worked with lived in the Center City and a lot of the row homes, and I didn't realize how steep…and narrow stairwells were, even how narrow a lot of the doorways were, too. So a lot of times, it's really limited how much you could really change, and that was really interesting, too. It's not always ideal and if it's not ideal, then you have to get creative and try to work with the situation at hand. [Koi2: 43-45]

Koi had served both the higher and the lower socioeconomic communities during her two different internships. Koi appeared to be aware of the health care disparity between those two groups and acknowledged that she might have not recognized it if she served only the affluent community.

> [This facility] is located in the Center City, social-economic class really does play a significant role, so does the level of education. A lot of people continue to come in and out of the hospital because they lack the financial means to afford their medication. And that's why they continue, kind of progressively go down hill. And that is a huge factor especially you can teach a patient their exercises and work on having them being independent, but they may not be compliant with medication, such as patients in a congestive heart failure population. That's very hard to keep their level up. So that is a big issue, insurance issue as well. A lot of patients that come in do not have insurance and that can encroach and same time dictate the services that are available to them as well... [Koi2:232 - 238]
>
> When I was at an outpatient setting in [a name of a town], that was a small community, but that community seemed to be…primarily Caucasian, well educated, and little higher socioeconomic class, and I didn't necessarily see insurance issues nor their compliance issue… [Koi2:241]

During another internship at a pediatric specialty hospital, Koi realized how important family support was to the patient's recovery.

> That was really rewarding, and…I just learn to appreciate not only the education that I did with the children, but…what an important role the parents play in the child's success as well, to make sure that there would be a good carryover with their exercises at home, to make sure that they are prompt in bringing their children…to their scheduled therapy sessions, that there is good compliance with the equipment that had been ordered, and so a lot of times we spent educating parents and then following up with the parents to make sure that there is no questions, that there is good compliance with the child's therapy. [Koi2:52]

Koi provided the following example of how she incorporated the patient's specific goals into her treatment plan as well as how the patient took responsibility in her care during Koi's internship at a children's hospital.

> I think one special case that I had opportunity to work with was the child that with CP [cerebral palsy] who was graduating high school and going up to college, which was a huge transition on that she worked hard for and very excited for, and she actually came to therapy with a set of her own goals which was nice to see her take responsibility for her therapy and…one of her goals was to be, she was worried when she was going to go to the cafetorium, how she would be able to…handle her tray of food and also be able to use her quad cane. And that was something she had a great difficulty with at first, just about her balance and coordination, even the strength to do that. But that was really exciting working with her on that one of the goals, and by the end of the summer she was able to do it so that was, yeah, pretty exciting for myself and for herself as well. [Koi2:57 - 59]

When asked which part of her entry-level education Koi still utilized today, she replied that most definitely it would be her behavioral science course and possibly her neurology course due to her current neurology rotation. Koi had a unique opportunity to work with physically active and sedentary senior citizens groups during her research project in her PT school. Koi observed how enthusiastic the people in the active group were about their health and activity, whereas the sedentary group seemed not motivated to start exercising at all.

Koi attempted to generalize the importance of patient motivation across different PT practice settings in the following excerpt.

> I really feel that out of all these settings that I have been and I've kind of seen the same issues come up whether if making it at rehab setting or pediatric setting at children's specialized, or I did two affiliations even in outpatient settings, and you could definitely notice patients that really wanted to be there to get better, another patients said, "We are going because the lawyers said we needed to go." Or court case, or an employer

> said they needed to go because the incident happened at work. You could tell the difference, and typically I would say those that really wanted to be there, wanted to learn, compliant with their exercises, had much better success than those that are late, frequent absences, and just they are…there of obligation. [Koi2:97 - 99]

When asked to describe how different she was today as compared to her as a new graduate 2 years ago, Koi did acknowledge her professional growth. However, she also described her desire to continue learning throughout her career. "I still think myself as a student and…I hope I always do because there is so much to learn and so much to grow" [Koi2:172].

> Probably confidence, I also think that I've been more effective too as I gain with experience as far as knowing what I feel my patients needs and knowing how to go about getting that as far as…me being better patient advocate and being more confident in my discussion with the physicians and maybe with their case managers as well. [Koi2:194]

Personal Experience

During her time as an undergraduate and in PT school, Koi enjoyed working as an anatomy tutor. Koi readily found the similarity between motivated patients and motivated students in terms of achieving success.

> [O]ne of the things I mentioned about being related to successful patient outcome is the person's ability to…take responsibility, to participate, or actually want to do better, or to achieve their goals, and I've also seen this in the classroom settings as well as, I worked for a while as an anatomy tutor. [Koi2:63 - 64]

> I really enjoy working and teaching students, and even most of the students that would come to my sessions were the students who were having problems with the course itself. And I noticed that the students that really were dedicated that they came in the consistent basis could show me that they were actually trying to learn and do their home work, where the students had actually better outcomes than those that felt that they were forced by their instructors to attend my session. So I'm sure that has another impact on my beliefs. [Koi2:67 - 69]

Factor Sort Result

Koi ranked all five factors identical to the initial order in which she wrote them on the paper. When she was asked to perform her factor sort for the interfering factors, Koi told the interviewer that the factors were all identical with facilitating factors, but in the opposite dimension. Then Koi replaced *Pt's support system* with *Pt takes responsibility for their care and progress*.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Pt's motivation to get better*	Koi stated that all interfering factors are the same as the facilitating factors, just in the opposite dimension. Then she switched the order of #2 and #4.
2	*Pt's support system*	
3	*Pt's ability to participate in therapy (sometimes medical problems etc. can limit amount of time in therapy for example ↓ Hbg [hemoglobin], chemo[therapy], HD [hemodialysis])*	
4	*Pt takes responsibility for their care and progress (example: compliant with HEP[home exercise program])*	
5	Pt has a good disposition	

Potential Researcher Bias

Koi was the first interviewee to complete two interviews. Although I prepared myself fully by reading her first interview transcript and by taking note of some questions derived from the first interview, the interviewer's self assessment of the interview skills, particularly the sequencing of the questions, was not optimum (Reflective memo 5/19/03). Koi provided rich data related to her learning through direct patient care experience and her beliefs; however, her personal experience was not revealed as much as other participants.

It was Koi's patient description, "he was originally from Cuba" that triggered the interviewer's memory of the previous eight interviewees; none of them described their patients in terms of their race or ethnicity. I had not heard Black, African-American, or White. Hispanic was the only ethnicity category that repeatedly appeared when some of the participants described their patients. I wondered why (Reflective memo 5/16/03).

Conclusion

There were three major concepts Koi believed to be factors for a successful patient outcome. They were patient motivation, family support, and patient and family education given by the physical therapist. Koi believed that the physical therapist's main role was to be a teacher. With various adverse patient situations, she emphasized informing, educating, and promoting the best outcome, even though they may not reach ideal functional status. Koi stated that factors interfering with a successful patient outcome were the same as the facilitating factors, but in the opposite dimension.

Koi acknowledged that her beliefs about successful patient outcomes had changed over the last 2 years. The main influencing factor for this belief change was her direct patient care experience. Although Koi valued all learning experiences, she distinguished her direct involvement in her patient care from other learning opportunities, such as reading journals or listening to her colleagues about certain populations. As long as she would continue her direct patient care, she would be able to see the possibility of her beliefs changing in the future.

Interviewee Summary
Toro: "I always try to put myself in the rehab therapist's shoes."

Interview Dates:	8/7/03	8/27/03
Interview Time:	2:17 – 3:35 pm	12:30 – 13:30 pm
Interview Location:	Outpatient booth and wound care room at Toro's practice site	

Interviewee Characteristics

Toro is in his early 30s and currently works as a Senior Physical Therapist at a large Trauma Level I teaching hospital with a total of 3 years of clinical experience. He states that he has rotated through different services within the hospital and is currently on a neurology/neurosurgery rotation. He received his masters as an entry-level PT degree. He is currently enrolled in a local Master of Business Administration (MBA) program. He states that he had one sport-related injury that required physical therapy when he was playing basketball in high school. He has not had a caregiving experience with a family member's illness. Other demographic data indicate that he is White, married, expecting his first child, and his religion is classified as Catholic (Demo form 8/27/03). He was the only participant who had another career prior to entering the PT profession (Resume 8/27/03, Reflective memo 8/7/03, 8/27/03).

Coding Characteristics

Among 17 axial codes, 12 were used to code Toro's first interview, while the second interview was coded with 16 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two sets of patient care notes, Toro's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

Based on his factor sort, Toro emphasized three concepts as facilitating factors for successful patient outcomes. They were the patient's medical status, the patient's age, and family support. The factor sort items *type*, *degree*, and *chronicity/acuteness of injury*, and comorbidities will be discussed within the concept of the patient's medical status. Since the factors mentioned in his most memorable case weren't consistent with the factor sort items, the case will be presented separately.

Patient's Medical Status

Toro attempted to clarify what he meant by *type of injury* by giving the following examples in the context of his neurology/neurosurgery rotation. "Like subarachnoid hemorrhage is at Grade 1...2…3…4. Subarachnoid hemorrhage, stroke is a MCA [middle cerebral artery], ACA [anterior cerebral artery], PCA [posterior cerebral artery], how, aneurysm, how much hemorrhage was there, that type of things" [Toro1:171 - 172]. When Toro was asked to clarify what he meant by *degree of injury*, he appeared to realize that he meant the severity of the injury or disease. "So, like two [type and degree] combined, you decide the whole injury, disease state or how serious it is" [Toro1:177]. Toro illustrated how the *type* and severity of injury could facilitate successful patient outcomes by offering the middle cerebral artery (MCA) stroke as an injury example in the following statements.

> I have the expectation of, if I see a MCA that, you know what? Because of the vasculature supply to which portion of the brain, and I know because of the motor homunculus that, primarily there is a good chance that the upper extremities may be affected greater than the lower extremities, that I may have a half decent shot of being able to walk with this patient, being able to ambulate, or have functional mobility goes with him. [Toro1:191 - 192]

When Toro was describing *acuteness of injury*, he implied that certain acute problems, such as an acute ischemic stroke, could be managed successfully by medical interventions, such as the use of clot-busting medication.

> For example, if somebody was having a stroke, and if it was something where it was an acute injury perhaps that, the big protocol that they talk about these days is using TPA [Tissue Plasminogen Activator] within the 3-hour time window or 4-hour time window. If I would consider it is relatively acute, and if they are able to find it in that much of an acute stage, that the doctors are then able to use the TPA to possibly, prevent further deterioration…I would consider that more acute. [Toro1:220 - 221]

While describing *chronicity of injury*, Toro realized that it was closely tied into another factor, *comorbidity*. After describing that a previous stroke might negatively affect the recovery from a new onset of injury or illness, Toro also stated that chronicity of the injury could be viewed positively, if the patient was capable of managing it. "If somebody has diabetes as a chronic condition, that may be good because maybe they know how to deal with it" [Toro1:244]. Toro described how a *comorbidity* could limit physical therapy interventions in case of an uncontrolled hypertension found among many stroke victims.

> A comorbidity such as hypertension happens all the time with a lot of stroke patients that I get…when I'm trying to treat them down here [PT gym], and their blood pressure is sky high because they have hypertension as a comorbidity that…put a limit at times…[on what] I can do, when they come down here, and 200 plus over 100 plus. [Toro1:252 - 253]

Patient's Age

Toro drew a complex picture of the effect of a patient's age on his rehabilitation approach and outcome prediction. When Toro was asked whether his approach and outcome would be different if the patient was in his 70s instead of being in his 30s, he responded that he would be conservative in his outcome prediction and discharge planning.

> Outcomes, I maybe more conservative with respect to thinking disposition plan[ning], discharge planning-wise that they may not have quite a reaction time, if I am on the, in the gray area, or on the fence, with respect to them being truly independent versus needing supervision, and maybe a little bit more conservative in recommending that, they may need a little bit of family oversight when they are and if they are inappropriate to be discharged. [Toro1:99]

On the other hand, Toro emphasized his role in assessing each patient's rehabilitation potential, regardless of age. As an acute-care PT, he stated that he would often put himself into the rehabilitation PT's shoes in order to make a good judgment on the patient's rehabilitation potential.

> As far as the approach…my big thing is, do I see potential whether the person is younger or older? Do they have potential again to gain that independence? I want to make a right decision for the therapist receiving them on the rehab side of things…I always put, trying to put myself…in the rehab therapist's shoes. If I'm up there [rehab unit] and I get a person who, and I can say that…because…a lot of the clients who do go up to rehab, about half of them are from neuro or neurosurgery, so I can see…I want to in my shoes, if the person goes up there and I'm the therapist, do I have goals and do at some point in the future, do I see them having a chance or the potential become independent? So with respect to older versus younger, I think, that's the main thing on my mind. Do they have a potential, do they have a family, family assistance that would be willing to help them if they need be. [Toro1:106 - 112]

In his second interview, Toro repeated his need for understanding the receiving end at the rehabilitation unit in order to make discharge placement recommendations at the acute-care practice.

> I think a lot of times, I put myself in another person's shoes. That's the way for me that it helps me to try to think about…if I'm receiving this patient, what are my goals? If I'm having trouble coming up with goals, that may not be the best place for a person to go. [Toro2:194 - 196]

Patient age did not seem to matter in Toro's approach illustrated above. However, during his factor sort, Toro cautiously described the potential negative correlation between the patient's age and the recovery potential from a neurological insult.

> I just think in general, the younger, especially as you can see I'm probably coming at a very narrow blinders on focus, but in general, with the plasticity of the brain, the younger that you are, the greater possibility that the plasticity can help overcome some of these deficits that occur. [Toro1:269]

Family Support

Toro stated that a family doesn't necessarily need to be a nuclear family, but somebody who could help with the person's care at home. Toro continued describing a scenario of a patient with a stroke in the following excerpt.

> The reason that I put that [family support] in as a factor for… potential successful outcome is the fact that, if I have a person with stroke that I think may…have potential to become independent at some period of time, and I send them up to rehab, well, suppose they have been up on the rehab now for 2 or 3 weeks and the bottom, we are looking, forecasting down the road. Maybe they are indicated to supervision level. [Toro1:277 - 281]

Toro continued to describe a patient who didn't have good family support.

> Actually the woman that I have now is a perfect example. She is at the supervision level for most things. I do not feel comfortable at this point in time to say that she is independent. And unfortunately, no one from her family wants to take her home. So in that situation, if she had any type of family support, that can work for anyone who is just willing to be with her, maybe she has the chance to get out of this hospital. But right now, she doesn't because nobody is willing to take, arrange, and help her. So it's a sad situation. [Toro1:272 - 285]

In his narrative of his most memorable case, Toro described his patient as a 55-year-old female who was admitted with a C1 (first cervical spine) fracture due to a fall. She had cirrhosis related to her alcohol abuse. Her hospital course was complicated with respiratory distress requiring a tracheotomy and a scalp wound requiring debridement. Nursing home placement issues surfaced as her family support was found to be inconsistent. Fall risk remained as a major concern for her due to her unsteady gait (Artifact Pt # 25). Toro stated that this patient was unsteady partly because her cervical collar was hindering her from looking down. When Toro was asked what contributed most to this success, he emphasized the time as a factor for recovery, rather than any specific interventions given to this patient.

> Since that time, she has then brought, been brought back from the ICU [intensive care unit] to the floor and just with time, I think, more so than anything, it's to the point where she is close supervision, supervision with a lot of functional activities and…I'm not quite confident right yet that I would say that she would be independent to go home, but if she just didn't have that collar restraining her from seeing what's under her feet, she is pretty there, so it's a successful story with respect to the outcome, I can't say it directly attributable to my intervention. [Toro1:14 - 15]

With further self-examination, Toro stated that his cognitive retraining interventions along with others' similar efforts might have contributed to this patient's successful outcome.

> I'm not sure that my interventions played no part, but functionally, I think the muscular capability, neuromuscular capability was…all, probably there, I think a large part of it was the cognitive aspect. Now I may have helped with reorientation, continual questioning, and trying to do some problem solving, and maybe as an interdisciplinary team, maybe that all contributed by the fact that so many people were hopefully reinforcing that with her and going through that with her. [Toro1:47 - 48]

Toro documented this patient's cognitive status; for example: *"Difficulty with simple calculation" (Artifact Pt #25).* Toro described his specific reorientation process with this patient and how he would observe improvement in carryover in functional training during the episode of care.

> I would continue with, every time seeing here everyday out, initially, it was the simple things just as, the A[lert]&O[riented] times 3 and long term [memory], short term [memory], that type of stuff; then as I felt more confident that she was doing better with that and, simple calculations, your reasoning with your scenarios, and all that type stuff…how was her carryover doing with therapy with respect to safety awareness, and carryover with transfer techniques, and sequencing, and motor planning, and I have seen a large degree of carryover now as compared to when I first started working with her because, for example, now it's rare when…something as simple as reaching back with both hands for the chair before she is to stand. Before [she] was very impulsive, no concern for her safety, now she does that, whether I beat it into her head a million times and it's become automatic, or whether she is, volitionally thinking about it, I don't know, but she does it [laughs] and she is safe [smiles]. [Toro1:50 - 52]

When Toro was asked what he learned most from his most successful case, he stated that he learned the importance of the caregivers not denying hope for recovery, no matter how slight the chance might appear. Toro also reiterated that this patient's longer length of stay at the acute-care hospital might have contributed to her recovery.

> You may never see a potential chance for them…there is always possibility. And that's why, when…I talk with family members, hope is one thing I don't think you can take away, and you can never say no, in your mind with your experience, you may think that here is the likelihood of having successful versus unsuccessful outcome. But ultimately it's in God's hands, and, like with her, what a difference of few months have made, so I think be[cause the] effect of time, why she has turned the corner, I don't know… if it's just the time and the plasticity, or whatever. Why her cognitive portion cleared up with the C1 fracture, I don't know. Is she drying out from the years of alcohol abuse? I don't know, time has helped. [Toro1:549 - 554]

Interfering Factors for Successful Patient Outcomes

Three major concepts emerged from Toro's interfering factors for successful patient outcomes. They were the patient's medical status, the *patient's age*, and *skills of the caregivers*. Since the first two concepts were discussed in detail in the above section for facilitating factors, *skills of the caregivers* will be discussed using the unsuccessful case.

In his narrative of his most memorable unsuccessful case, Toro described his patient as a gentleman in his mid 50s, who was morbidly obese and had a prolonged preoperative hospitalization pending thoracic corpectomy. Postoperatively the patient became essentially quadriplegic, whereas preoperatively he was able to perform manual resisted exercises with his lower extremities in bed. Toro admitted that this patient's postoperative course was totally unexpected. "I wasn't overly optimistic, but at least I wasn't as probably scared as I am now for his potential outcome" [Toro1:391]. When Toro was asked what was his expectation for this patient, he responded: "Nursing home" [Toro1:394].

Toro was not alone. Other PTs also depicted nursing home placement as if it were a life sentence, especially for a man in his 50s. Toro brainstormed with his colleagues without getting a breakthrough. This patient and his wife had different expectations from Toro's, and Toro suggested the patient's spouse talk to the surgeon who could possibly provide a precise medical prognosis based on his surgical outcome.

> He's [the patient] unrealistic in his expectation, get very frustrated with the neuro and neurosurgery team because the other day, his wife was in there and basically asking me what about inpatient acute rehab versus SNF [skilled nursing facility], and in my mind, he is a handful for me to take care of, he is probably going to be handful for his wife to take care of at home. I don't feel it's necessarily my position and I try to propose to her that she should probably discuss with the physicians with what they think the prognoses, because they saw his anatomy when they did the surgery. [Toro1:401;403]

Since Toro valued his patients' gaining their independence, this case was considered unsuccessful when Toro was not able to see the potential for this man ever becoming independent.

> I try to tell her what I've seen and what my goals are right now because since there is little strength, it's very difficult for me, it's really not therapy for me to lift this man or probably not physically able to, because of his size to lift him, I spoke with the nurse manager, and I tried to get a bariatric, basically hoyer, and a wide chair for him to get him some independence, but I have difficulty in my mind, or it probably ever see this man being independent. [Toro1:405]

Skills of Caregivers

Through his clinical experience, Toro had encountered some indications of physicians who might care less or might overlook basic clinical information that could become critical in some cases. Toro implied that no matter how hard all the rest of the team worked, one incompetent health care practitioner may ruin the chance to attain a successful patient outcome.

> We had some examples around here just, like, physicians…I'm harping mostly on physicians with this more than anything…I think a lot of the basic stuff, which is either they don't care about or they just overlook. It's not really being taken care of the way it should…I feel sometimes like they had the blinders on, and something as simple as, looking at INR [international normalized ratio] or clots or whatever. And maybe rare, and I think that's probably, because I think in general most people will give a 100% and do the right thing, but I think there are somewhere, all it takes is one time for somebody to throw PE [pulmonary embolism] and I don't care what I'm doing if this is, if the caregiver isn't skilled enough to be looking at, if they are therapeutic, or, what the sats [oxygen saturation] are, acidotic, or what the blood gases are, it doesn't matter what I can do, I'm not going to have successful patient outcome if somebody is on the ventilator… [Toro1:519 - 523]

Toro continued to provide a similar scenario for nurses with respect to the patient's blood pressure control.

> It can go with for nurses, too, with the way the health care is today, the nurses being over[worked]…a lot of times…I get some of the stroke patients come down here [PT gym] with crazy blood pressure and I'm like, "You are going right back upstairs, unfortunately," because I'm not willing to take the risk. I would rather play safe than sorry and what if they can't get simple thing, I don't care who it is, nurse or doc, whoever. We need to get the blood pressure in control. Something simple, it's not a big deal but you know what? Take care of it before I start doing, I don't want to do harm. [Toro1:526 - 530]

When Toro was asked if he had ever encountered a similar scenario for any rehabilitation professionals, such as a PT, occupational therapist (OT), or speech language pathologist (SLP), he remembered a patient fall incident that might have been avoided if a trained person performed the task properly.

> The patient had fallen during the transfer, I mean not that every PT may not have one or two experiences where it's been a bad experience, but…an OT should be attempting the transfer, just as probably I should not attempt maybe a tub transfer with the patient or something else, so yeah, it happened. [Toro1:535]

When Toro was asked what he learned most from his unsuccessful case, he pointed out a certain degree of uncertainty associated with surgical procedures. "I guess I've learned I, you don't necessarily always really know what happens during the surgery" [Toro1:555].

Toro further reflected how little he might know about this patient by offering unanswered questions.

> [Sighs] [T]hat particular situation, I think there is a lot of psychosocials involved. Who knows, how long it was going on for beforehand? [H]ow did the guy like this come in that he needs a max assist of two people just to stand. So there was obviously a lot going on before then. How did he get that point? There may be factors involved, maybe has nothing to do with the physicians, maybe they were willing to take an operation, maybe that nobody else would take this guy but, yeah... I don't know, I guess there is just when the patient comes to you, as much as you try to take all the history. A lot of time you are relying on that patient for the history, and you don't know what maybe underlying there. [Toro1:556 - 562]

Perceived Influences in Toro's Belief Formation

Definition of Successful Patient Outcome

Toro defined successful patient outcomes in the context of the acute care setting in the following excerpt.

> In my mind as an acute therapist, a short term successful patient outcome is having somebody being able to get up to rehab if they are appropriate. Long term-wise is that they are able to go home independently, but if you are asking me as an acute therapist, it's successful to me if the person shows potential and is able to improve to the point that I can say this person needs a little bit more therapy in rehab before they go home. [Toro1:308 - 309]

When asked whether his beliefs about successful patient outcomes were different or similar to his colleagues', Toro indicated that the underlying beliefs might be the same but the goals and outcomes might be service or rotation specific.

> So for me, a successful patient outcome is being able to make a correct recommendation for where somebody needs to go, or continue therapy. I think if you are on the cardiopulm rotation, I think the successful patient outcome is being able to work with somebody for a little bit longer period of time, and have them, so they are able to ambulate and possibly be able to go to get to be discharged home. So while we may have different goals, I think we have the same beliefs as far as, it's a different successful patient outcome based on where you are and rotation you are doing. [Toro2:253 - 255]

Toro didn't reveal any significant change in his beliefs about what facilitates successful patient outcomes throughout his three-year career.

Professional Experience

Among various professional experiences, Toro provided much richer descriptions about his direct clinical experience than about academic education or his continuing education course experience.

As a student physical therapy extern, Toro was able to directly observe his preceptor, making an effective communication with his patient at her bedside in an acute-care hospital. Since Toro took his PT position at the same facility, he continues to experience similar encounters.

> So he would often take me to the floor when I was still in school. So I remember in particular a woman. She was on the VRU at the time, the vent rehab unit, and she had AAA [Abdominal Aortic Aneurysm]. So she came from far, and just the way the same type of the way that he communicated with the patients. And with the externs alike with myself at that time as a student level to be able to see that and to establish rapport and therapeutic relationship with the patient to make them feel comfortable, that was something…there are many experience like that working here. [Toro2:120 - 123]

Toro implied that some concepts were much easier to learn through practice than to learn through formal education. Toro's ability to make a good call for rehabilitation recommendation was facilitated by both his clinical internship experience at a rehabilitation hospital and his earlier practice where he was able to follow through his patients from the acute-care through the rehabilitation unit.

> [I] think that's the very difficult concept, and I'm always trying to work with the students…say, "Here is the situation, what would you think about?"…until you actually [be] in practice, it's really hard to apply some of that to understand exactly. It's not rocket science, but at the same time till you practically get to apply it to a patient, it's hard to really understand the differences... [Toro2:155 - 157]

Contrasting to his student experience at a rehabilitation hospital, Toro described the time-compressed nature of PT service at the current acute-care practice setting.

> The beautiful thing about being in the rehab setting is that you do have that time to really establish your rapport and take even greater amount of time. Right now in the acute care-setting, I feel like everything is very condensed, and you have to be to the point. And God willing get them up to the rehab. So I may not have as much time to necessarily I'm more trying to do, almost like a triage to a point that make a decision where is the best place for them to go, and then I hope that they are making their progress upstairs [rehabilitation unit] once they are able to get up to rehab. [Toro2:134 - 137]

Toro provided examples of his facility specific challenges, such as unpredictable family structures and a different level of patient's knowledge of their own health status. "When you are doing H and P [history and physical examinations], they put, like, "left knee surgery," and I'm sure, that's all the patient knows sometimes. People don't take responsibility for their health" [Toro1:582 - 583].

> It's amazing to me…the family situation which I could never even imagined in my dreams. A perfect example is this guy with this young successful patient outcome. The other day, her sister came from North Carolina and I said, "How many brothers and sisters do you have?" "About 9 or 10." "Well, how old is she compared to you?" "Ah, about 20 or 30 years." And, like, how could somebody not know how many brothers and sisters they have. Who is it for me to say that everybody should, but you would think most people know how many brothers and sisters they have. These family situations that you could never dream up. The situations that I could never fathom occur. [Toro1:567 - 578]

Toro attempted to contrast his current urban hospital with a suburban hospital setting where a patient might bring in his or her own medical record file with X-rays and list of medications.

> "Here are my X-rays and charts and everything." Here, it's, like, "I think I had a knee surgery," and that's where I get back to with unsuccessful outcome…you don't necessarily always know all the background all the time with some of these people. So it's definitely challenge at times. [Toro1:588 - 590]

When Toro was asked to characterize his patient population with respect to his comparative comments, such as the above, he responded:

> Here you are dealing with primarily Black and Hispanic and a little bit of White I would say, patient populations. As far as, I think it's probably a combination of this area is primarily African-American, and primarily lower socioeconomic, and I don't know how much of this is my personal biases, but I think if you have a lot of kids having kids, poor family support systems, so I guess I would say, it could be primarily maybe geographic in that because there are also, the Kensington area, where, I mean, you can have very poor White people as well, who are very uneducated when it comes to a lot of the stuff that is going on, so I guess you could maybe make a case for it being geographic in nature. [Toro2:336 - 337]

Personal Experience

Regarding his personal experience, Toro described the undeniable influence from his father and his previous career in the military. From his father, he learned his work ethic and the benefits of paying attention to details. Being at the Air Force Academy, the importance of being professional, punctual, and paying attention to details were reinforced. Through his work as an officer dealing with day to day programming and logistics, being responsible for the entire base personnel and equipment, he learned and applied effective communication with his superiors as well as with the entire enlisted personnel. In the following excerpt, Toro describes how vital his communication skills were in two distinct professional environments.

> When I first graduated from the Academy, I was stationed at [name and place of an Air Force Base] and one of our responsibilities for our job was making sure that personnel and equipment, when you heard about such things as, Rwanda, and Somalia, and Bosnia, those type of things, we were the officers that were responsible for getting personnel and equipment to those destinations. And as a key part in that process was communication and talking with people, and I really feel my father, probably instilled the importance of communicating and then seeing that in on the personal level in the job setting prior to going into PT school, how important that was, and I think I really carry that into my mind, I don't know I'm an expert, or if I ever will be an expert at physical therapy in anything, but the one thing that I do know that I can do whether if I'm an expert or not, is the way I communicate with patients. And I feel sometimes I can go a very far way, if for nothing else than to making a patient in the strange setting and strange situation, in which they have never been before, feel a lot more comfortable, understanding, and have a little bit of faith and trust in you and be willing to work with you, so, I think, and I also see a lot of the times…some of the doctors, either they don't have time, or language barrier, and whatever the case may be, sometimes some bad feelings can be harbored to be developed, you go in to some of these patients' rooms and it's not necessarily that the therapist's place to communicate some of these situations with them, but you can see what a difference it makes, being able to spend some time, and just go through things and educate them, and tell them what's going on, at the same time, it's frustrating because realistically, but should not be fallen on our shoulders to be the integrator of all these information what is, but be that right or wrong. [Toro2:16 - 18]

When discussing how important it was for Toro to be able to predict and to plan for his patient, Toro remembered what his prior job was.

> So planning and programming was my job. And I've always been slightly anal retentive probably from the start, so you throw that on top of it, going to a Military Academy, and then having to do with something like this. I think a lot of the things probably contributed to it. Forecasting was part of the job when you are sending personnel and equipment to these different countries because you don't have unlimited resources. [Toro2:175 - 177;188]

Although Toro was talking about Air Force experience, it could be readily applied to disposition decisions for his patients. "The bottom line is you want to make the right decision with where you are sending somebody. So I think forecasting-wise up there, just the same thing as being efficient with the resources that you have" [Toro2:192 - 193].

Toro's current pursuit of his MBA appeared to reinforce his view of health care as human service. Toro cautioned not to blindly apply a business model to health care practice.

> [I] guess maybe this has to do with attitude, I don't know if this is the only reason why I think this way, because I think I felt this way little bit before hand, but…I think it's ridiculous when you try to compare health care as a business because, being as a therapist, seeing how a hospital operates, yes, while it maybe ideal to be able to be 100% efficient, it just doesn't happen. And don't get me wrong. There are areas where hospital obviously, this is an acute care, that's where I've seeing, where there are improvements to be made, and there is a lot of inefficiencies can be made better, but at the same time, if a patient crashing, or needs the test emergently, everybody get backed up. And when we have these, we talk about this in our staff meeting all the time when we get productivity stats, that just frustrates hell out of me because I was never, going through the education that we went through to get here, I'm a professional, and that, there is a lot of reasons why you may not be at 100% patient efficiency, which I hope that's being taken into consideration by the administration management, whatever the case maybe. [Toro2:291 - 294]

Factor Sort Result

Although Toro started with *age* when writing the factors that facilitate successful patient outcomes, in the process of ranking them in the order of the most important to the least, *age* came down to the fifth. *Age* was also the first item Toro listed for his interfering factors, but it was placed in fifth while ranking them from the most important to the least. In both factor sorts, the top four items listed pertained to patient medical status.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Type of injury*	*Type of injury*
2	*Degree of injury*	*Degree of injury*
3	*Chronicity/acuteness of injury*	*Chronicity/acuteness of injury*
4	*Comorbidities*	*Premorbid level*
5	*Age*	*Age*
6	*Family support network*	*Skills of caregivers*

Potential Researcher Bias

Toro's second interview was the last among all 26 in-depth interviews. By that time, the interviewer was puzzled by the fact that none of the participants described their patient's racial and/or ethnic background, with the exception of Spanish-speaking patients. Thus I used a probing question to clarify which group of patients Toro was trying to refer to when he mentioned about poor family support system. I could have asked the same probing question earlier with other participants, but this decision the result of my gradually accumulated concern about the rest of the participants' unconscious or conscious effort not to use racial descriptive words, such as Black or African-American.

Toro was the only one who had a previous career, thus I had some anticipation in finding some differences in his response based on his previous work experience. I perceived that his confidence in his effective communication can be traced to his experience in his previous career.

Conclusion

Toro believes factors that facilitate successful patient outcomes are the overall severity of the patient's medical status, the patient's age, and family support system. Interfering factors are exactly the same except for *the skills of the caregivers* that appears to more associated with other health care professions, such as physicians and nurses. Through one successful and one unsuccessful case, the level of unpredictability, medical status, and the family support were addressed.

Toro's beliefs about what facilitates successful patient outcome have not changed since he became a physical therapist. Potential influences to his belief formations include his father, his previous career experience, and his clinical exposure as an extern, a student, and a physical therapist. They all influenced in reinforcing Toro's values, such as his work ethic, professionalism, punctuality, attention to details, and interpersonal communication as a tool for success regardless of the career.

Interviewee Summary
Ika: "The part of their healing is their faith in their caregivers"

Interview Dates:	5/1/03	6/5/03
Interview Time:	2:00 – 3:08 pm	3:00 – 3:40 pm
Interview Location:	Ika's clinical practice site, wound care room	

Interviewee Characteristics

Ika is in her early 30s and currently works as a Senior Physical Therapist at a large Trauma Level I teaching hospital with a total of 7 years of clinical experience. She is a certified wound care specialist, and approximately 90% of her current clinical practice is dedicated to wound care, including burn care. She received her master's degree as an entry-level PT degree and is currently enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. Ika has been providing presentations on wound and burn care both in-house and outside her current facility (Resume 8/5/03). She has been actively engaged in teaching as a clinical instructor for physical therapy interns and as an academic instructor in her specialty (Reflective memo 10/1/03).

She has never sustained a severe injury or illness that requires medical care, including physical therapy. However, she had an experience as a family member when she was a caregiver for her sibling's significant injury. Other demographic data indicate that she is White and married without children, and her religion is classified as none (Demo form 6/5/03).

During two interviews, Ika demonstrated various tones and inflections in her speech, facial expressions, and whole body gestures, to illustrate how she would interact with individuals with various needs and desires (Field note/reflective memo 6/5/03).

Coding Characteristics

Among 17 axial codes, Ika's first interview was coded with 15 different axial codes, and the second interview was coded with 12 different axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Ika's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were four prominent concepts that Ika illuminated throughout her two interviews as important facilitating factors for successful patient outcomes. They were clinical knowledge, education, persistence, and flexibility. Although *communication* was listed in her factor sort table, it went to the background as these four factors emerged in the foreground. *Communication* properties were, instead, embedded in each of these four factors. For each factor, Ika's quotes are used to illustrate its meaning and application in her actual patient care.

Use of Clinical Knowledge with Metacognition

In her narrative of her most memorable successful case, Ika described her patient as a man, approximately 60 years old, with a long standing venous ulcer in his leg

(Artifact Pt #27). The referring physician planted the idea in the patient's and his wife's mind that they would receive whirlpool care in an outpatient wound care center. Some therapists might just follow what was on the prescription, or, even with the knowledge of the ineffectiveness of whirlpool treatment for this case, they might not know any superior interventions. Ika, on the other hand, possessed not only her clinical knowledge of a more effective intervention for this case but also her determination to overcome various obstacles. Ika's confidence in her choice of intervention was evident in her voice quality in the following excerpt (Reflective memo 5/1/03).

> So what we did was instituted a program where we were going to use multilayer compression and used a topical antimicrobial but one that absorbed auto drainage because that was something draining very smelly, so pretty much took cultures but assumed that there was infection so started antimicrobials. It was an iodine-based and it slowly but surely healed, twice a week we saw this person. [Ika1:8 - 10]

The first obstacle of convincing the patient and his wife wasn't difficult. However, Ika admitted that it wasn't easy to convince his referring physician. She tactfully convinced him by providing research findings and guaranteeing to stop her approach if it was not effective in 2 weeks.

> The doctor, he was a bit harder to convince but I just kept hitting him with research and saying, "With this study, this and this seem to work really well and…unless you have a better idea," I kind of put it nicely then, "…Let me try this." And he said he would agree and he wrote for whatever we needed and I agreed to provide him with progress notes, measurements, and pictures. So he knows his patient is at least getting the best care and I said if nothing happens in 2 to 3 weeks, we would change and we would do whatever he wanted us to do, but let's give this a try first because we have seen this work for other people that have long standing ulcers. [Ika1:47 - 50]

There was evidence of her metacognition throughout her episode of care. Ika was fully aware of the effectiveness of her intervention as long as other barriers were monitored and controlled carefully. In order to accomplish it, Ika was proactively vigilant about the patient not taking his dressings off or not stretching them out and also managed his itch that was caused by the multilayer compression dressings.

> So we had to manage that respect, and then because it did itch, we asked the doctor to…allow him to take over-the-counter Benadryl, so in terms of management, it was kind of trying to contain all these things together and remove the barriers to this working because I had a feeling this would work for him as long as we could contain other things. [Ika1:36]

Promoting Patient Participation Through Patient Education

Ika expressed that her patient education needs started from the very first patient encounter. Through patient education, her goals were to have her patient understand the nature of the clinical problem, and how her interventions positively affect the recovery process. She implied that without having her patient buy into her care plan, patient motivation and compliance with the treatment may not reach an optimal level. "Patient education definitely, there is nothing that's going to happen unless they know why or what you are doing" [Ika1:116].

> Education is primary because people really can understand the physiology behind why they have the wounds and understand how you are doing each thing to fix that problem then they will know what they need (to) put up with to get a successful patient outcome. If you just say, "Well I am going to do this because I think this is the thing you do." Realized that this is going to be the best. You can't do that without educating them all the way from the beginning, like the disease process itself. [Ika1:73 - 76]

Ika further illustrated the importance of providing a very specific and precise instruction to each patient in order to make it most effective.

> And with the diabetics, if you don't educate them in a very specific manner, you can't just say "Watch your sugars." Because people will nod at you and say, "Yes." And then if you ask them, "Do you know what the range of sugar need to be in?" Then they have that blank look. "What do you (do) if your sugar is high?" "What do you do if it's low?" "How do you care for your feet?" You know all those distinct simple one by one thing, the education part of that is just paramount because the outcomes for diabetics are much better if you can educate them specifically, not generally. [Ika1:112 - 119]

In addition to explaining to her patients why and what her interventions were, Ika believed in the importance of providing the patient with the knowledge of the potentially negative consequences of not participating fully or refusing the treatment. "So much for my population, which is the diabetics, venous ulcers, and burn care, if people don't understand why they need to do this and the consequences if they don't, then you get terrible outcomes" [Ika1:111].

> And my burn folks, nobody's being burnt, so they don't understand the consequences of not doing their exercises because…normal unburned people, if they don't exercise, it's OK, there is no horrible deforming consequences. And it takes them a while to understand the connection and that's why we get out books…charts…pictures of people, and again do specific education because we need to make them understand before it's too late, before they already start seeing the bad effects. So for that education I can talk about a lot. [Ika1:123 - 125]

It is a challenge to make patients, particularly young children, understand the long term benefits of participating in the potentially painful treatment. In addition to the use of rewards, Ika again illustrated the use of visual aids to emphasize her point to her patient: your future depends on your action right at this moment.

> We'll show them pictures of horribly disfigured people and we'll say and be very honest and say, "That is what you are going to look like if you don't do X, Y, and Z," and we are not trying to hurt you but we are trying to let you know straight up, and this is the possibility, this is your future and right now is the time you can impact it. [Ika1:426 - 427]

Ika uses patient education as a vehicle to prove her good clinical skills and knowledge. To do so, every single encounter with her patient could be a very important opportunity. Taking advantage of these opportunities, Ika attempted to build up a patient's faith in her.

> People will ask you questions and if you can't answer them with any certainty then they will have no faith in you. If they have no faith in you, then they will not do what you ask them to do. You lose before even you start. You can't pretend, you are thick bravado but if you are fairly certain and they ask you a question, act like you know. And if you don't know, I'll find it out for you. But come across with your confidence, certainty, and assurance, that probably half the battle right there because they need to respect you to do what you want. And the part of their healing is their faith in their caregivers. [Ika2:514 - 520]

Persistence

Using her clinical knowledge with metacognition and providing patient education to promote patient participation does not guarantee successful patient outcomes. Ika described being persistent as both a means to promote a successful outcome as well as a consequence of having clinical knowledge of the specific patient. Ika showed her sense of duty to utilize her clinical knowledge and skills to prevent harm to the patient.

> [I] don't know where that come from, probably being the youngest of five, [laughs] I don't know well, just working with burn population, if you roll over real easy, you never going to get them to do what they need to do. And it's bad when you see the consequence of them not doing things and they start to contract and then, you, even though it was their choice to say no, you kind of feel like I let them say no. They don't know the consequences but I do and that's why I'm so persistent because I know it can happen and I don't want that to happen. [Ika2:96 - 97]

Ika was fully aware of the potential ethical dilemma of her being persistent and the patient's refusal of the treatment. This is another proof of her metacognition--having awareness of her own emotional response to her patient care.

> [I]t's awful because then patients have rights and one of their rights is to refuse treatment but if you let them refuse to get out of bed or refuse to bend their legs to do stuff, then there just going to be a horrible, horrible outcome and crippled. [Ika1: 129]

Flexibility

In order to accommodate various patients' scheduling needs, Ika stated that she often had to come in early, stay late, or give up her lunch time to provide care to her patients. When asked why she believed flexibility was important in facilitating successful outcomes, she responded to indicate its necessity far beyond scheduling issues.

> Flexibility, especially with the burn population, we're going to find a lot of psychosocial issues, just bad homes, bad finances, bad everything, so you have to be pretty flexible and kind of dealing with different people and groups and their family and schedules and everything like that to make sure, and yet you have to be able to give up some of the control and be flexible and if they really can't do something one day, you can't be a hard ass all the time. You have to give them a little bit of, of room without letting them go too far and not do what they need to do. [Ika1:126 - 127]

Interfering Factors for Successful Patient Outcomes

Patient Psychosocial Status

Among various interfering factors discussed, the most significant factors were the patient's lack of compliance, motivation and lack of family support. During her factor sort, Ika described what she meant by compliance and further contrasted some observable good and bad compliance. "Compliance would be definitely, if you are going to get a good outcome or a bad outcome, pretty much see it coming how much the person is willing to do what they need to do..." [Ika1:372].

> [G]ood compliant person is somebody who does their exercises, does it correctly, does it the right number of times, you give them home exercise program and you can tell they are doing it. Bad compliance is somebody that walks out the door, takes up the splint, takes off the garment, you can tell they are not doing their exercises. [Ika1:378 - 390]

Ika described an unmotivated teenager with large burns in difficult areas of the body, such as the neck and axilla. He frequently missed his PT appointments. Ika perceived his psychological issues as the biggest interfering factor for a successful patient outcome. "Not big on follow through, compliance is a huge issue, anxiety, acting up, those kind of things" [Ika1:302].

Lack of Family Support

Ika further attempted to trace his lack of motivation and poor compliance to his lack of family support.

> I guess his mental liability…volatility, or something he had a strange home situation, strange relationship with his mother who is a alcoholic, so he had a lot of social issues that there is no solid rock in his life I think that was saying, "Hey let's get you here to your appointment on time. You need to do this." He didn't have a strong backing, so…all of these things really I think contributed to his poor outcome. [Ika1:315 - 317]

One of the characteristics of metacognition in a therapist is to know his or her own limitations. Ika illustrated how to handle patients like the one above in the future--know the boundaries of her ability and make timely referrals so that the patient would receive the optimum level of care.

> You are going to see it. You are going to be like, "Oh boy, we have to get psycho[logical] eval, pain eval, the doctor has to be involved, nutrition has to be involved, family meeting, at the get-go, absolutely, yeah. You can see those people coming like a storm coming across the sea. And you just have to communicate to the team early on this is going to be a high-risk person and we need to make sure certain things happen at certain timeline to make sure that we don't let anything dribble through the cracks... [Ika1:321 - 324]

In addition, Ika listed *communication*, specifically *mixed signals*, and *nutrition* as interfering factors for successful outcomes. With respect to *mixed signals*, Ika described how communication among the patient, family, and the health care team could be improved so that mixed signals would be avoided.

> I'm trying to get everybody together at one time because family is notorious for being they pit against each other and they say, "The doctor said this, and you are saying that, and the nurse said this." So…I'm trying to make sure there is one unified message and everybody is there at the same time to hear it. And if it does not work that way, then you pull out one family member and say, "You will be the communicator. We'll not speak to the rest of the family. We'll speak to you and you'll communicate everything to them at once." To try to decrease the amount of mixed signals and incorrect information. I think it's a big problem. [Ika1:448 - 454]

For her specialty, wound care, nutrition is an essential ingredient for wound healing. Thus Ika described her attempts to impact patient's nutrition deficits through patient education in concert with other health care team's efforts. "Even though I am a physical therapist, I harp on nutrition like it was my job because people have to understand that no healing occurs without the building blocks. So nutrition has huge impact on everything" [Ika1:500 - 501].

Perceived Influences in Ika's Belief Formation

Definition of Successful Patient Outcome

Ika defined a successful patient outcome in her primary clinical specialty context, wound and burn care.

> [S]uccess with my patient who is that is venous ulcer, 100% healing, and then him being able to take care of his skin, and know when there is a problem, that is success. Seeing that closed, get new skin, and not have to wear bandages anymore, that is success, or some of my burn folks, success is getting them back into their world because they have a lot of, not just wound, small part of success is getting them healed. The second big step is to make sure that they have full functioning limbs and can move and take care of [them]selves. And then the bigger part of the success is the psychological part of getting them from being a burn victim to a burn survivor and getting them back into their world and hopefully back into the workforce. And not having productive member of the society, being in an accident, and have to stay out and being on the fringes, and lose the sense of independence and who they are. [Ika1:158 - 162]

When asked whether her beliefs changed over time, Ika responded:

> [T]hey changed a lot. Initially when I first started doing wound care, success to me would be getting it closed and getting them healed. That was kind of as far as I was looking, and then as I do more conferences and worked with an interdisciplinary team and different people, you realized that is not success, not really. Success goes way beyond that, and getting them to accept who they are, and getting them more prepared to go out in the world and face people, if they have deformity or go back to working or doing things that have frightened them…My definition has changed. [Ika1:184 - 188]

Ika further characterized her current definition of success as follows:

> [I] have much more broader scope, I can throw a lot more domains of success. Even though I am a physical therapist, we can kind of impact all those domains, directly or making sure that different people of the team are involved to cover these domains, such as psychologist or dietitian or somebody else. I think as you work in this field more you get the idea of how these things impact, and you just continue to learn and grow about that. [Ika1:191 - 193]

Ike articulated several potential contributing factors for her belief formation from both professional and personal experiences. Professional experience included her continuing learning through various means, such as reading, observing colleagues, listening to the patient, attending conferences, and networking with wound specialists across the nation.

PT's Professional Experience

There was a limitation in what could be taught in an academic environment. Particularly in the context of wound and burn care, Ika described the necessity of learning on her own throughout her professional life. "[T]here is always something new, so you had to hit the journal continuously because in PT school you don't get a lot of information about burns and wounds, so that was a big influence" [Ika2:47].

> So if you are interested in this area [wound/burn care], you definitely have to take a lot of yourself to gain knowledge, first by textbooks, and journals, and classes, and seminars, and then every year you should be going to the yearly meetings, American Burn Association. So that you are appraised of new things coming out and stay [in] contact with vendors and…have a lot of things in your armament, so that you are prepared to handle a lot of different situations. Or network with people who do so and then we are always working on the researching ideas of different ways of splinting, different ways of to get better outcomes, or different ways of decreas[ing] pain, and if you don't do the research I think you are doing disservice to your patients. [Ika1:227 - 229]

Her clinical skills and knowledge, as well as more intangible interactive strategies, were learned from practice, her direct patient responses, and observation of her coworkers.

> I think in school you learned to change your approach with certain people and certain cultures or things like that, but I think your voice inflection, and how far to push somebody, and how to motivate somebody, just come with practice, I think, and just working with other therapists and you see how they…do it and go, "That might work for me" or the way you phrase questions. And sometimes you just learn because some patients are going to put you in the place if you try to approach them in a certain way. And if you back up and…go around the other way and trying to do something a little different and they respond you, then you learn that, that was maybe I should treat somebody like that or the next time I have that Hispanic male …there is a cultural thing with Spanish male who is very bravado…I don't see in women, that's such a stereotype but they have a hard time with pain. And if you can nurture them maybe a little bit more than you would have for regular old straight up person who had fractured ankle, you are going to get further because they are used to be babied more, so I think you just with experience you learn cultural differences and all. [Ika2:57 - 60]

The colleagues and supervisors provided a safe practice environment for newer physical therapists to grow. Some colleagues were inspirational for her professional growth.

> [C]oming out and doing burn care and being part of the team, that was a huge influence that the burn director at the time was very pro-

> interdisciplinary action and research, so, if you, he would let you do anything you wanted to do as long as you have a rationale. [Ika2:44]

> You look at her and she can really explain things well and talk to doctors up on a doctor's level, and…respect her for that, and go, "Oh, she is a really good clinician." So people like that influences me and go, "I have to find out more about this. I have to read more, and be more involved." [Ika2:175 - 177]

PT's Personal Experience

The timing of Ika's brother's injury coincided with a burn care lecture given in her entry level physical therapy program. She expressed her sincere appreciation of being able to directly observe the wound and being able to learn various neuromuscular functions on him with her clinical spectacles on.

> [P]art of the injury…god bless him, had a brain stem swelling…and I talk about it with enthusiasm, I don't mean to, it's just so interesting, because…on his right side, he had no coordination and it's interesting because the brain track. [Ika2:255]

> I used to stick him with a pin on his left side because it's just so interesting and pain and temperature. You know how tracks run next to each other, and he didn't have either one, so must have knocked out that whole side. So I think I looked at it in very clinical way. And we used to take off his dressing and make him move his fingers and watch his tendons move. [Ika2:259 - 262]

By soliciting, Ika provided the potential connections between her valuing flexibility in her professional life and her upbringing as the youngest of five and her parental attitudes.

> [A]bsolutely because I'm the last of five. I think that's why I can be so flexible because I never really had the choice, like, wherever everybody else went, that's where I went because as the youngest what voice did I have any of that, so [laugh], I can be really flexible, and be like go with the flow kind of person, and I think, that's a lot because my parents are very much like that, definitely don't cry over spilled milk, and if one way doesn't work another will, that's just their attitude, and I think I got a lot of that which is great because I don't get too upset if things don't go right, improvising a lot of fun, and in my previous life, I also did a lot of theater work, which if it didn't work, improvise. [Ika2:68 - 69]

Factor Sort Result

As Ika started writing the factors that she believed to facilitate successful patient outcomes, she expressed that *patient education* was definitely the factor that she does all day long. However in the process of ranking them in the order of the most important to the least, *knowledge and reasoning ideas* came up as the most important factor that facilitates successful patient outcomes.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Knowledge and reasoning ideas*	*Compliance*
2	*Patient education*	*Motivation*
3	*Persistence*	*Family/psychosocial issues*
4	*Communication*	*Communication/mixed signals*
5	*Flexibility*	*Nutrition*

Potential Researcher Bias

Burn care always brings to the mind of this interviewer the image of Dax who sustained a life threatening burn in 1973 due to a propane leak that resulted in his car exploding. He despised his health care team's decision to offer him daily burn care and numerous surgeries, even after he regained his physical mobilities and reestablished himself as a productive individual in the society. Therefore, the interviewer's immediate association with burn care is a potential ethical dilemma between patient autonomy and the beneficence of the health care team.

As the youngest of four herself, the interviewer could not help but be fascinated with the similitude between her and Ika's upbringings, with respect to being flexible.

Conclusion

Ika believed that her clinical knowledge, patient education, persistence, and flexibility were the most important factors to facilitate successful patient outcomes. There was an evidence of her metacognition throughout the episode of care. All of these factors contributed to improving the patient's faith in her as a physical therapist. By promoting this therapeutic relationship, Ika appeared to optimize her specialized patient outcomes.

Ika believed that the most significant interfering factors were the lack of patient motivation, commitment, and family support. Although they were not always modifiable, Ika described her approach to minimize their interfering effect on the outcome. As a part of her metacognition, knowing her boundaries or her limitations enhanced her ability to detect an early referral need.

As she gained clinical experience, Ika's definition of successful patient outcome had grown broader. Both professional and personal experiences were potential influences on Ika's belief formation. Professional experience included her own continuous learning, such as reading journals, as well as learning through her colleagues at work. She also valued networking with other wound care specialists across the nation through attending conferences. Her personal experience, such as her exposure to her sibling's severe injury, as well as her upbringing as the youngest of five, appeared to be influential in her belief formation as well.

Interviewee Summary

Aji: "A successful patient outcome is the patient meeting goals that they set for themselves and being happy with their level of function that they are at when they leave me."

Interview Dates:	4/22/03	7/24/03
Interview Time:	2:00 – 3:00 pm	2:00 – 3:00 pm
Interview Location:	Aji's outpatient booth at her clinical practice site	

Interviewee Characteristics

Aji is in her late 20s and currently works as a Clinical Supervisor at a large Trauma Level I teaching hospital with a total of 8 years of clinical experience. She has some per diem work experience in addition to previous full time work in two different acute care hospital settings. She received her master's degree as an entry-level PT degree. Aji has been involved in teaching as a clinical instructor for physical therapy interns. She also assumes a role of co-CCCE (Center Coordinator of Clinical Education) at her current facility (Resume 7/24/03). She had an injury experience that didn't require physical therapy. She has not had care giving experience for a family member's illness or injury. Other demographic data indicate that she is White, married without children, and her religion is classified as Protestant (Demo form 4/17/03).

Coding Characteristics

Among 17 axial codes, Aji's first interview was coded with 11 axial codes, while her second interview was coded with 13 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Aji's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three prominent concepts that Aji illuminated throughout her two interviews as important facilitating factors for successful patient outcomes. They were *patient motivation, patient's perception of pain,* and *therapeutic relationship*. One of the other factors, p*hysical condition preinjury,* was described in terms of the patient's premorbid functional status that could dictate the patient's expectations or goals independent of the physical therapist's outcome expectations. Mutual goals and expectations were formed only if the patient's expectations were fully understood by the therapist. Another factor, u*nderstanding of risks/negative outcomes,* would only be necessary when the patient motivation was poor, thus it was described under the following section of *patient motivation*.

Patient Motivation

In her narrative of her most memorable successful case, Aji described her patient as a woman in her 20s who suffered a gunshot wound. Her parent and her boyfriend were also shot simultaneously and required immediate medical attention. The patient waited for her boyfriend to be taken by an ambulance, and she drove herself to the hospital. Her gunshot wound to her calf resulted in a compartmental syndrome by the time she arrived at the hospital. Multiple fasciotomies were performed, and her open wound required painful daily dressing changes until the wound was surgically closed. She lost her ankle range of motion, and for a while she was not able to bear weight at all. Despite her significant pain, especially at the beginning of the episode, the patient progressed to perform her exercises and to walk with crutches independently. Therefore Aji believed this was a memorable successful patient outcome.

In the above successful case, Aji stated the patient's inner motivation really made a difference in her outcome.

> I think the biggest thing was her inner motivation. First couple days I saw her, "Oh I really can't walk. I just hurt too much." And I came in the next day and she said, "You know what? I made up my mind I want to get out here soon and I need to do this. So show me what I need to do, so I can go home." I really think that she found something within herself that just clicked, and she kicked in the butt on her own. [Aji1:118 – 124]

Then she attempted to generalize the effect of a patient's motivation on his or her outcomes in a different scenario.

> I think that the patient's inner motivation has huge impact on whatever outcome, because if they had in their mind, "Oh I had a stroke it could be that I have full motion and almost full strength but my aunt had a stroke and she was in a wheelchair therefore my stroke, I will be in a wheelchair" regardless of how well or how bad they really do, so I do think that does carry over to other patients too. [Aji1:127]

Aji described how she could observe good patient motivation. While Aji was providing the following statement, she quickly became aware that having a trusting therapeutic relationship does not guarantee good patient motivation. "Willing to try anything, even though it was uncomfortable for her...very cooperative with no matter what I tried with her. I could say trust, but I still think that people…can still trust you and…still it does not matter" [Aji1:151- 152]. When Aji was asked what she meant by *motivation* during the factor sort activity, she replied: "[H]ow the patient feels and if they want to get better" [Aji1:163]. Particularly when her patient appeared not to be motivated enough, Aji stated that she informed her patient about possible negative outcomes (Factor sort # 4) in order to facilitate successful patient outcomes.

> [E]xplaining the possible negative outcome, if we don't do these exercises as your skin is drawing back and once the fasciotomy is closed maybe it is much more difficult for you. The purpose of this is to keep the motion, keep the tissue stretched out, so that once the swelling comes down, once the site is closed, you'll be able to fully put your weight on the leg and have the motion you need to walk without the crutches. [Aji1:73 – 74]

Patient's Perception of Pain

In addition to patient motivation (Factor sort #1), Aji stated that that she learned that the patient's perception of pain (Factor sort #2) had a significant impact on the patient's outcome. Aji responded to the question of how she handled this episode of care as follows.

> I think it is pretty much the same in a way I treat everybody else. I started off very sympathetic to the pain and offering to the nurses to get her more pain medicine, slowly and by…explaining things very well what I was going to do. Showing her on the good side first…Really taking my time with her. First day seeing her bedside letting her stay bedside a day or two and then progressing her. She was very corporative and she was like, "You know what? I really want to do this." And she worked very hard for me so I didn't have to go to the phrase like "You are not going to, if you don't do this, you are not get any better." That would be my next step if it didn't work well. [Aji1:48 – 54]

Aji acknowledged the individual difference in the patient's perception of pain despite having similar medical or surgical conditions. Thus an effective modality for each patient's pain would have to be individualized as well.

> I just think patient's perception plays such a huge part in it that what may work for one patient. It's been my experience that for the patient who had total knee replacement, if you give them ice afterward they feel better. "Well that sucked yesterday and I'll never do it again and don't talk to me." So it could be very different as you know from patient to patient but I do try and always do whatever I can to make it better for them. But I don't know if there is one thing in particular like I could say, this is how I do it or this is why I do it. Like I said, I really think it is how the patient perceives it more than anything else. [Aji:194 - 199]

Therapeutic Relationship

Aji described the importance of forming a good relationship with her patient, because it would impact the patient motivation and the outcome.

> I think how well you interact with the patient and the relationship you build with the patient can go a long way. One person may feel very comfortable and may do more with you if they feel comfortable with you versus another person comes in and, "Hey let's try this new thing," and "Well yesterday we did something 'NEW' and 'HURT' so I don't know if I want to do that new thing because yesterday you hurt me." [Aji1:210 - 211]

Among the various interactive strategies Aji described, such as the use of humor, she highlighted the benefit of learning and understanding the patient early on during the initial evaluation in order to determine the right frequency that would match with her patient's wave length.

> [D]uring my evaluation I am trying to talk about a number of different things, to see if there are something that as I'm going along whether it's being very slow and gentle or sympathetic or being funny or just whatever I can think of to make it click for them. One patient may respond to humor, whereas another person may respond to cuddling...As I'm doing the eval, I try to pick out what that one thing is or two things are for each particular patient. [Aji1:215 - 217]

Aji stated again during her second interview that she would search for the connection with her patient. In the following excerpt, Aji might attempt to show a more professional appearance to her student by controlling her spontaneous side of interactive strategies with the patient. "I'm a talker. I'll get to know my patients well because I'd like to have that rapport with them" [Aji2:102 - 103].

> I'm not a very strict, or rigid person when I'm dealing with my patients and I'm trying to find some kind of connection, and I feel that I build a very good rapport with my patients and I'm more of a person to joke around with somebody, and I think that when I have a student, I try to back off on that because I want to give more of a professional appearance. [Aji2:86]

The patient with chronic conditions such as, congestive heart failure (CHF) or chronic obstructive pulmonary disease (COPD), could be a precious source of information in order for the therapist to understand the patient's physical limitations. Aji illustrated her willingness to incorporate her patient's knowledge of his or her limitations up to a certain point.

> A lot of times…for those patients who have been living with the illness like that for long time, they know their limit, they know how much they can do, and I do live it up to them good number of times…within reason. Do I still push them? Yes. Do I encourage them to do more? Yes. [Aji1:313- 317]

Interfering Factors for Successful Patient Outcomes

Among various interfering factors discussed, the most significant factors were social norms, co-morbidities, and the patient's psychosocial status. The patient's psychosocial status included the patient's pain and fear, as well as the lack of patient motivation.

Social Norms

Health care professionals, including physical therapists, could learn some social norms through repeated encounters with similar cultural or social groups. Using examples of Hispanic males and females in general as caretakers of the household, Aji described what she meant by *cultural norms (roles in family & society)* (Factor sort #1) and its potential negative impact on patient outcomes.

> "When I was at home before, everyone took care of me and when I go home, it will be all better because everyone will take care of me again." Or...it has presented itself to me that the Hispanic male population...don't do very well. Very reliant on other people's [family's] reaction to their condition. [Aji1:328 – 330]
>
> And I think that they can play it up, they seem very dramatic, they would win a lot of Oscars, but it's OK because the women take care of the men, that is what I mean. Or going back to women in a family too. If it's their responsibility is to keep the house running, to take care of children, and when they go home, when they get discharged from the hospital, they are expected to do that again no matter what. I think that is what I mean. [Aji1: 334;336 - 338]

Comorbidities (Patient's Medical Status)

Aji listed *Comorbidities/previous medical hx* (Factor sort #2) as an interfering factor for successful patient outcomes. In her view, *comorbidities* would be additional obstacles to the primary condition for which the physical therapy was required. "Comorbidities absolutely rule a lot" [Aji1:266].

> For patients who have CHF or COPD who had used oxygen beforehand or…they have an amputation from a trauma in the past…if those things have been limiting them beforehand, it would most likely impact on them now, or if it may affect pain…that may impact their treatment and the outcome. [Aji1:345]

When solicited for more examples of comorbidities, Aji gave the following statement. "I am thinking about that long list of the diabetes, the PVD [peripheral vascular disease], the CHF, the amputation, the uncontrolled hypertension that mixed, always and constantly go together" [Aji1:350].

Patient's Psychosocial Status

In her narrative of her unsuccessful case, Aji described her patient as a man in his 70s, who had a heart transplant approximately 10 years prior. He was admitted with a femoral fracture due to a slip and fall. His hospital course was complicated by a pulmonary embolism that required some intensive care. Aji believed that his pain in his hand was limiting his functional mobility as well as his motivation (Factor sorts #2 & 5).

> I really think that a lot of it had to do with the pain in his hands. He was limited significantly in his transfers, he did not feel like he could push through his hands to use the walker to walk with, so we were very limited …he did not feel comfortable pushing on the wheelchair with the wheelchair mobility, I could not get him out of his room very well in those

> respects. [I] really think that the pain in the hand was very frustrating for him as well as very functionally limiting. [Aji1:259 – 261]

For his hand pain, she came up with an alternative device, such as a platform walker, and to combat his fear of transferring to and from his bed with Aji's help, who was considered "a little girl" compared to this big and tall patient, she recruited an extra male assistant. She also attempted to encourage him by acknowledging his successful survival through his heart transplant, which required much more intense effort and will than this orthopedic hip injury. However, the patient appeared to her as self-limiting.

> I really did feel he was very self-limiting. Number of times, he was "Oh honey, I just don't feel like it. Honey, my hands are killing me." And I used the approaches I mentioned before. I got the pain medicine for him, but he got drowsy from just taking the pain medicine. [Aji1:275 - 279]

Fear could also limit the patient's motivation and his or her ability to participate in the therapy session. Fear of the unknown could be a challenging concept for a caregiver who had never experienced it before.

> Whether it would be fear of falling, because of I am a woman and I'm short, I may not be able to help them…Or it could be something I have never had to go through this, what's going to happen when I go back home, how I am going to manage, I don't know what to do next. [Aji1:353 - 354]

Aji also described the external negative influences on the patient motivation level. The external sources included his or her family, caregivers, and consumer medical information.

> I think if the patient doesn't feel like they are going to get better, that is often a good indication, "well no one expects me to do well, this is my diagnosis, so why should I bother or going back to some of the other things my family will care for me, so why should I bother? I haven't done it before." [Aji1:367 - 368]

Perceived Influences in Aji's Belief Formation

Definition of Successful Patient Outcome

After describing her successful case and the factor sort activity for facilitating factors, Aji stated her definition of a successful patient outcome in the following excerpt.

> I think a successful patient outcome is the patient meeting their goals that they set for themselves and being happy with their level of function that they are at when they leave me. I think also just in overall positive experience not fighting tooth and nail every day and...it, actually it may even be that because often times I found that often times those patients that I do fight tooth and nail are the ones come back and say, "you know what? I was the real jerk but I just wanted to say thank you," so I think it

> may not be immediate that it seems like unsuccessful patient outcome but they got to this patient in particular, I was hoping she would be and she would be happy with what I have done and had good relationship together. That is my idea of successful patient outcome. [Aji1:79 – 82]

When asked if she always thought the same about successful patient outcomes as she did today, she immediately said no. She acknowledged that her beliefs about successful patient outcomes had changed from an absolute success, such as being impairment free, to a relative success, such as more patient-specific or patient-defined success.

> No, because I think originally, to me, the successful patient outcome was they are able to walk without any assistive device, they have full range of motion, they have full strength, they are able to do the steps, they are able to do all that independently, whereas now…I don't think that is as important, and I think that the moment that the patient feels happy with the levels of functioning they are at and they are progressing in the right direction, it may not be completely all there, they may never get to that end point, but as long as the patient is happy with what is going on with them and what level they are at, then I think that is a successful patient outcome. [Aji1:90]

Aji gave a very concrete example to illustrate how different her approach and goal setting were today as compared to ones at the beginning of her career. She acknowledged that she was paying more attention to the patient's desire than before.

> Recently I had a hip replacement patient who said, she was post-op day 3, "I'm going home tomorrow, and I'd like to go gardening." "OK, how we are going to do that and still maintaining the hip precautions and do it safely..." whereas if I had been a new grad, I would have been, like, "Errrr, no way, there is no way. You are never going to able to do that, not now. You have to check with your doctor." And I think, I'm more open to whatever goals along and…I'm more focused, I'm more aware of what the patient wants, and how to incorporate the patient's goal, not just what I think are good things that they should be doing. [Aji2:130 – 135]

Professional Experience

To the question of who might have influenced her belief formation, Aji stated that it was the combination of colleagues' positive traits rather than one particular mentor or hero that inspired her.

> [I] don't know if I had any one particular person who influenced me, I think it's more of a compilation of a little bit from this person or a little bit from that person. I liked the way that this person performed this treatment activity, or I thought that was really a good idea and this person over here, I liked the way they handled this patient when they responded in this manner to a treatment that they have given to them. So…I really don't

> think that if there was any one particular person that with, “That’s who I want to be like.” [Aji2:7 – 9]

Not only from observations, but also her own direct patient care experience influenced her views and approaches toward successful patient outcomes. “Plus a number of my own experiences that kind of all pulled into one piece” [Aji2:11]. Particularly, her first job gave her the opportunity to understand herself better through more autonomous practice than being a student therapist under her instructor’s supervision.

> Just because there were more people to see actually practicing, not just being only with the CI [Clinical Instructor] on the clinical…experiencing myself and more free…spreading my wings and trying what I wanted to try, see what works for me, not necessarily what I thought my CI wanted to hear. That’s, plus, I saw some things there, [sighs] that was more managerial stuff, though, that I would not want to do, OK. That’s not how I want to be…it would have to be my first job, just because it was my first real exposure to being on my own and finding my way. [Aji2:41 – 44]

When asked whether her administrative responsibilities affect her beliefs about her patient care practice, she denied the influence.

> I have a hard time balancing. I always feel that the patient care comes first, not the paperwork stuff. So I’m often the one who put the paperwork and managerial stuff aside, if the patient care needs to be done, because I feel that that is the most important part of my job, that’s why I’m here. I’m here to serve people. So, I guess, in that respect, the paperwork is always second because of that. [Aji2:66 – 70]

Aji implied that there was a certain level of uncertainty and unpredictability in caring for patients at her current practice site. Thus she acknowledged her conscious effort in tuning in more to her patient’s needs and desires with an open mind. Aji’s metacognition was evidenced when asked about the last few years of practice at her current practice setting.

> [I]’ve learned just to be once again, to pay more, and it’s an on-going process, pay more attention to the patient, and how they respond, maybe it’s part observation, not just hands-on stuff or in my own feelings of the patient, but the observation of how other people treat the patient here within the PT department and outside the PT department, and…I don’t know if I want to say acceptable, or maybe that isn’t the right word,… but just being more aware of where my boundaries are, where they need to be, or different cultures or ethnicities, just being more open in general because you never know what you are going to come across here. Certainly, you never know [laughs]. [Aji2:241 - 242]

Aji described her continued efforts in facilitating successful patient outcomes by being flexible to be able to handle any uncertainty. She also noticed some unavoidable bureaucratic hurdles built in the large health care organization, as opposed to a smaller facility where everyone would know each other.

> You just never know what you are going to come across here and what culmination it's going to come across and so…more of an on-going thing of being more flexible, and going with the flow and trying to fit-in with whatever the patient wants, however, being a bigger university health system, at the same time, I've noticed there are a lot more delays in, not necessarily patients receiving the care that they need, but sometimes in the support that we may need as a staff, sometimes that isn't always as good or as resourceful as I would hope it would be, but I think you get more in a smaller facility where everybody that works in the hospital by their first name not just, "I think I saw you two moths ago one day" in a cafeteria… And I think, part of that is my own fault for not making the effort to know more people and know more people's names, but at the same time, it just kind of happens at the smaller hospital. [Aji2:245 – 246]

With respect to her academic educational preparation, Aji stated that her entry-level program taught her technical skills and knowledge, but it did not cover humanistic skills that she utilized in her daily practice of physical therapy. By attending continuing education courses she would capitalize on the opportunity as a time to acknowledge her own limitations in knowledge and skills and to network with other professionals across the nation. She recognized that her ego had been shrinking as she became more experienced.

> I think any time I go to a conference, I always find myself saying, "I had this patient is there something else you would do?" I think, I'm more willing to say, "You know what, I don't know. What do you think? I'm up against the wall. Can you help me out?"…whereas before I was, like, "I'm the PT now. I should know. I should have answer for this. I need to think some more." And I would not necessarily say, "I don't know." And I think that's something just being out there and networking with other people, and knowing that other people feel the same way that I do, they don't know, so it's OK that I don't know that something I learned at the conference…it's always interesting to see what different things are going on in different parts of the country what had been a standard of care, and we'd gone beyond that but someone else is still doing that, or vice versa, we are not up to snap on something. [Aji2:154 - 164]

Upon returning, she would attempt to integrate the materials that she learned during the course into her own clinical context.

PT's Personal Experience

When Aji's grandfather had his rehabilitation after his stroke, he frustrated Aji because he didn't want to exercise at home. However, the most important lesson she learned from him was once again the importance of understanding what her patient would really want.

> He frustrated me knowing that, at the rehab center, he had done this and that other things, and when he left, because…still he wasn't independent, but he was a lot better that when he got to the facility that he went to, his activity of choice was sitting and watching the baseball games. That frustrated the Jesus out of me [laughs]. Because I knew what he could do and I encouraged him to do that, and he got angry at me or whatever…He was a feisty man. But that's besides the point, but I think that made me more aware of what the patient wants to do and how they want to live their lives is really what matters most, not so much the family that say, "Well, he needs to walk." [Aji2:193 - 195;199 - 200]

In order to be an advocate for her patients, Aji would need to speak up. Her ability and willingness to speak up for her vulnerable patients could be influenced by her upbringing as the youngest in the family.

> I'm the youngest. Nobody listened to me because I was the youngest, so I had to have a big mouth to have my help, so heard a good number of times, so I learned to speak up when I needed to speak up which I think reflects to being a patient's advocate because you need to be able to have the big mouth to say, "No, that's not right." You got to listen to what I'm saying. [I] understand what you are saying, but you got to listen to and understand what I'm saying too. So I think that influenced me. [Aji2:214 - 218]

Having relatively older parents, Aji stated that she was used to being surrounded by older people. That might have influenced her affinity for older people. She also stated that she learned to be effective in understanding other people's limits and how to persuade them in her favor.

> Perhaps knowing what button to push or knowing how to know what's people's limits are. What will get them angry enough to do what I need them to do, or to get my way to get my goals accomplished, I think that, that's probably something else that I learned from them. Because a lot of times, my parents were, not saying that I was a bad child, while I wasn't, but because they were older, it's not just the same when your parents are older, and I needed to, I got under their skin a lot, and I was trying to test my limits, because I wanted to know what I could get away with, and nobody else was there to say, "You can do this. It's OK. I did it too." [Aji2:221 - 225]

Factor Sort Result

Aji wrote *motivation* first, which remained as the most important factor while ranking all the factors in the order of the most important to the least. Aji wrote *comorbidities* first as an interfering factor, but during the process of ranking, *cultural norms* took over the first spot.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Motivation*	*Cultural norms (role in family & society)*
2	*Pain level*	*Comorbidities/previous medical hx*
3	*Physical condition preinjury*	*Pt (Patient) fear*
4	*Understanding of risks/negative outcomes*	*Motivation*
5	*Rapport with patient*	*Pt (Patient) pain*

Potential Researcher Bias

Aji was the first one who addressed the patient's perception of pain as an influencing factor for a patient outcome. As a former acute care therapist, the interviewer postulated two reasons why she discussed the patient's pain. The practice type may dictate the level of the therapist's exposure to patient pain. For example, the high exposure to patient pain can be expected in trauma service, postoperative care, wound care, burn care, and neuromuscular and integumentary dysfunctions seen in outpatient services. Another influence can be traced to the regulations given by JCAHO (Joint Commission on Accreditation of Healthcare Organization). Every healthcare professional in the acute care setting must assess the patient's pain and document it properly in order to manage acute pain experienced by the patient.

Having grown up with relatively older parents herself, the interviewer had an immediate understanding of what Aji was trying to express about her relationship with her parents. That resulted in the interviewer's fortuitous omission of probing further on Aji's point of view of her own upbringing.

Conclusion

Aji believed that the patient's motivation, the patient's perception of pain, and the therapeutic relationship were the most important factors to facilitating successful patient outcomes. All of these factors required her ability to understand herself as well as her patient's limitations. Aji also believed that the most significant interfering factors were social norms, patient's comorbidities, and the patient's psychosocial status. Although they were not always modifiable, Aji described various strategies to deal with these interfering factors.

Aji's definition of successful patient outcomes had grown more patient specific, more focused on relative success rather than absolute, such as regaining full range of motion or becoming impairment free. She reported that her observation of her colleagues and her own clinical experience influenced her beliefs most. In addition, her willingness and ability to understand the patient and herself could be traced back to her upbringing, being the youngest of four. Her family members' illness also gave her the insight of how important it was to understand what the patient would really want.

Interviewee Summary
Fugu: "I'm a lot more function oriented"

Interview Dates:	5/13/03	6/18/03
Interview Time:	2:30 – 3:40 pm	2:25 – 3:00 pm
Interview Location:	Outpatient booth at Fugu's clinical practice site	

Interviewee Characteristics

Fugu is in her early 30s and currently works as a Clinical Supervisor at a large Trauma Level I teaching hospital with a total of 9 years of clinical experience. She states that she rotated through the acute care hospital services, including outpatient service. Her current position requires both clinical and administrative responsibilities. She currently practices both inpatient and outpatient services. She received a bachelor's degree in psychology and a master's degree as an entry level PT degree. She is currently enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. She has been involved in teaching as a clinical instructor for physical therapy interns and as an academic instructor in cardiopulmonary physical therapy skills (Resume 6/18/03). She has also mentored new staff. She stated that she had an extensive orthopedic injury herself requiring various forms of medical care and physical therapy. She also had an experience with a family member's illness. Other demographic data indicate that she is White, married, has a child, and her religion is classified as Catholic (Demo form 6/18/03).

Coding Characteristics

Among 17 axial codes, 13 were used to code Fugu's first interview, while the second interview was coded with 12 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two sets of patient care notes, Fugu's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three prominent concepts that Fugu illuminated throughout her two interviews as important facilitating factors for successful patient outcomes. They were clinical knowledge, the therapeutic relationship, and patient motivation.

Clinical Knowledge

In her narrative of her most memorable successful case, Fugu described her patient as a woman with a 20-year history of shoulder pain and a previous mastectomy. Her pain increased progressively over the years and nothing had helped. Fugu saw her twice per week for about 2 months. Upon discharge, the patient was able to perform all activities of daily living without any pain (Artifact Pt # 31). When asked what contributed to this success, Fugu acknowledged her patient motivation and then indicated her treatment approach utilizing various soft tissue mobilizations to improve her shoulder mobility before strengthening. She stated that her approach wasn't unique in terms of technique, but it contrasted with another rehabilitation service that this patient had received prior to this episode of care, which focused on strengthening without addressing any soft tissue mobility restrictions.

> [S]he was very motivated. She really wanted be in therapy and she wanted to get better. I think the other thing that worked really well was… she had one therapist, primarily…so I was able to gauge her progress. And I think what really worked well was getting in there and doing hands on work and doing soft tissue mobilization, doing passive stretching to her shoulder, and a lot of one-on-one work with her and really focusing on getting her mobility back first and then trying to strengthen it and getting more function with it. [Fugu1:57 - 60]

In another scenario, Fugu explained what she meant by a thorough evaluation. It was a prerequisite along with a detailed treatment plan for a good treatment.

> I think I had this means you have to really look at the patient, look at what's going on and kind of focus in on maybe key things you need to address for example, say someone who has an amputation, I'm not going to necessarily just look at his function. Function is important but I want to do a thorough stump evaluation and I want to look at all the components of what's important for a stump evaluation. And how that's going to affect his function. What I really need to focus on? Does he have tight hip flexors? Does he have tensor problem? Does he have nerve pain? Does he have phantom pain and phantom sensation and all the different components that are going to influence his gait? Not necessarily, OK, I just want to get him up with a walker and get him walk, that's not the goal I want. I want him to have a good gait. [Fugu1:184 - 193]

According to Fugu, there was an exception with respect to providing a thorough evaluation and a good treatment. A safety check performed by a physical therapist pending discharge from an acute care hospital always requires high efficiency. In that context, the therapist might focus mainly on the patient's ambulation abilities and his or her stair climbing abilities.

Therapeutic Relationship

Fugu listed a *good pt[patient]/therapist rapport* as the number one factor for facilitating successful patient outcome. She elaborated on its meaning in the following excerpt. Both the physical therapist's empathy and her caring for the patient appeared to be the driving force to building a good rapport.

> [W]hen a patient is, or the patient thinks the therapist, the person is really looking out for their best interest and genuinely want them to get better and listening to what they have to say, understands what they are say[ing], kind of emphasizes what they are going through, and really they know that they would tell them that they are looking out for their best interest. [Fugu1:145]

Fugu described several strategies as well as examples of a good therapeutic relationship. She implied a good rapport could promote patient motivation and compliance. In the following excerpt, Fugu described how joking between the physical therapist and the patient can be both a strategy for and a result of a good relationship between them.

> I have found that a lot of joking tends to work well…when you have a good relationship…it's… motivational, like who is joking around at the patient, patient joking around back at the therapist and the other patients. It kind of builds an atmosphere of fun place to exercise and work. [Fugu1:147 - 148]

Another way to promote a good rapport was a hands-on approach as opposed to a stand-offish approach, to indicate Fugu's full engagement with her patient in an outpatient context.

> [W]hen you put your hands on someone and you start to work with them, really help them to show that you are actively really engaged…in their treatment, it's not just for instructing bunch of exercises with them and saying, "OK. Go in the corner and do these exercises," which I think, we do some times. So I think it's not just hands-on but that being involved in that care, not the stand-off approach. [Fugu1:72-73;85]

Fugu described how a physical therapist's empathy can be expressed being in a close contact with the patient.

> [I] do think that if you have a very stand-off approach…, that is…doctor in a white coat type approach, I don't necessarily think that the patient feels like you emphasize with them and you understand what is going on. And I think if you get down with them and either through touch or through being close to them or talking to them, they kind of get a feeling, you are listening to them and…you can empathize what they are going through. [Fugu2:66 - 67]

Fugu illustrated the importance of having her patient buy into her professional opinions. She described how she would achieve it by explaining to the patient the potential mechanism of pain and how she could help alleviate her pain.

> I think that I should show her, the reasons for why she had this pain…explain to her. "You have pain because this is going on…in my opinion. And that if I work this, do this…then do this, you are going to get, hopefully get better." I think have her buy into that and then you are doing all the hands-on stuff with her really worked. [Fugu1:74- 77]

Upon soliciting a situation in which Fugu or her patient might have difficulty forming a good rapport, she offered an example of training a patient on crutch-walking before discharge from an acute care inpatient setting in the following excerpt. It implied her use of metacognition--awareness of her own limitations in building therapeutic relationship.

> [Y]ou see a lot of young gun shot wound patients and most victims are young males who don't handle pain well, who are not very into physical therapy or appreciative of what you want and the therapist is going to do. And I think with those patients...the therapist-patient rapport is not necessarily very good. Because I think…they don't want to do anything and they don't want any part of you. And you are as a professional trying to encourage them and teach them how to do crutches because basically… they want to get out of here [hospital]. [Fugu1:155 - 157]

Motivation and Compliance

In her successful case, Fugu stated that the patient initiated the referral process. Fugu continued to monitor her patient's motivation level and her compliance in doing her exercise program at home.

> [S]he picked out therapy, she is the one told the doctor, she was her own advocate. [S]he had been dealing with this pain for close to 20 years, I want to try therapy because I haven't tried it and the doctor said, "OK if you want to try it, then go ahead." That's the first one that shows you that she wants to be there. And she was very good with being there, I'm very big into giving handouts…on what I do, so I gave her that's the starting home exercises and, then as I progressed her, I gave her more, different, adjust her home exercise program and adjust things which is very good like I can tell if she was doing it at home by her progress and by how she was doing in therapy. [Fugu1:66-68]

Based on her clinical experience, Fugu further described several observable signs of good patient motivation and her firm belief in the positive correlation between the patient motivation and the patient outcome.

> I think patients can still do well without being motivated, but I think if you are looking for what's going to get really good patient outcome, then your patients who want to be in therapy, who aren't there because the lawyer said to be there, who aren't there… workman's comp says, "I have to come here. I have to go back to work." Your people who are going to do well are the people who are like, "I want to get better. What can I do? What can you do to help me?" And they are going to do much better in therapy than your people who really don't want to be there but they just come because they really have to or they don't have anything better to do. [Fugu1:241 - 245]

Fugu explained the reasons why the patient has to be compliant with the program in both the outpatient and inpatient contexts in the following response. She emphasized to her patients the fact that only they could improve their conditions by their full participation in the program guided by Fugu. Without their participation, Fugu's efforts and expertise would be wasted.

> I think that in order to have someone do well in therapy, they have to be compliant with what, and this is from something from the outpatient perspective is you have to, if you are going to get them things to do, they have to do them because you are not going to make them better. And I let people know right away, I am not going to fix your problem, they have to fix their own problem, and I can give them tools and show them exercises and show them techniques, but they are not going to come here and I'm going to give them a drug thing to fix them. And only way they are going to get better is if I show them different stretches, if I show them different techniques to do it, and we are only talking about inpatients, I think compliance and motivation, it's somewhat goes together but it's the whole, getting them to really try, and getting them to…"Don't you try and walk?" not kind of being against you but, "OK, I'm going to try. I'll do the best I can do." And…that's all I can ask for is your best. And I think that is important because otherwise, you are fighting them. [Fugu1:162-165;167]

Interfering Factors for Successful Patient Outcomes

The factors Fugu addressed were the lack of patient motivation, poor medical status, poor treatment, the lack of family support, and poor team approach. Among them, her emphasis was placed on the modifiable factors: poor treatment and poor team approach.

Poor Treatment

Fugu illustrated her experience with a patient who showed a great deal of evidence of receiving incompetent care in the past by another rehabilitation service. Without blaming the previous therapist, Fugu asserted that she would provide a thorough evaluation in order to provide a better treatment for the patient's specific condition.

> [I] think you have some patients get really good treatment and some patients you…look at them like, "Why the heck are they doing that?" And the example is I just see a lady who had a history of mastectomy… decreased range of motion, and she was telling me she had been followed by an occupational therapist somewhere another place and they have her doing tons of strengthening exercises, and I said, "Oh", I said, "Do they ever take range of motion measurement?" She said, "Oh, no." So I said, "Do they ever..." She said, "They never placed their hands on me." Then I said, "Do they ever..." I got her down on the mat and she had marked, tons of decreased range of motion. I guess it…falls into the whole eval[uation] and treatment and the whole therapy session. So like, "Oh, why?" I didn't want to say, "Oh, they should have been doing A, B, and C", but I said, "Well every person has different opinion of what's good treatment,

> but I would like to do a full evaluation, have measurements, so I can see pre and post how you are doing. [Fugu1:349 - 358]

Fugu further elaborated on her rationale of her treatment approach in contrasting with the previous rehabilitation service.

> My plan is to work on a lot of stretching, a lot of strengthening. She wasn't doing any stretching at this other facility. And I'm like, "Well you are not doing any stretching…how do they expect her to get her motion back. You are not going to get it by strengthening." So in that case, I think the person did probably pretty poor evaluation, kind of just threw her in and got her a bunch of equipment and didn't really spend the time to develop good treatment plan. So I guess that kind of all tie into good evaluation and good treatment plan. Poor treatment just meaning the whole treatment, not just the actual exercises. [Fugu1:360 - 366]

Poor Team Approach

Fugu gave an example of an inpatient who had significant pulmonary issues that resulted in the lack of functional endurance. She illustrated how easily the patient could be disturbed by non-cohesive team actions.

> I wanted to get him to go up to the rehab, so I went and talk to the rehab doc[tor] and why I want him to go to rehab, blah, blah, blah, this is why, major cardiovascular endurance problem, someone walking about 20 feet and get fatigued. But the physiatrist pretty much went and saw him and told him why do you want to go to rehab…why doesn't he go home with his family. The patient interpreted that as I'm dying and the patient talked the doctor who never saw him before told him he was going to die. And I was like horrific, I went to the physiatrist, and said to him, "This is what the patient thinks." He said, "Ah, why he thinks that?" And I said, "Basically because that's what you told him." There is a whole big rigamarole. [Fugu1:400 - 406]

Perceived Influences in Fugu's Belief Formation

Definition of Successful Patient Outcome

Fugu defined a successful patient outcome separately in terms of inpatients and outpatients.

> I think that a successful patient outcome really varies with the patient and the different patient and the different patient diagnosis that I think for each patient, it's different. I think overall for your inpatients, successful patient outcome is the patient is able to return to the prior level of function, and in some cases, they are able to improve on their prior level of function. Either able to get around within the house or within their community with an appropriate assistive device, and they are able to ascend and descend different elevations with the proper assistive device safely. [I]n outpatient

> perspective, if the patient is able to resume prior functional level or return to the activities of daily living they weren't able to do prior to starting the therapy. [Fugu1:264 - 267]

Upon questioning whether her definition of successful patient outcome has changed during her career, Fugu acknowledged the change with a touch of hesitation in her first sentence. She described it in terms of her increased focus on the patient's functional mobilities.

> I definitely think, at least, yes. I think at this point in my career, especially when it comes to outpatients, I'm a lot more function oriented…these are the impairments then I need to figure out…how these relate to function, like OK, so they have decreased range of motion, so they have pain. What can they do functionally…I can use that as a guide to fair they are improving or not. Inpatient-wise, I think the focus is always on function, so I think that just, what I have patients do to a degree somewhat has changed. [Fugu1:271 -274]

In one of her patient care notes, Fugu wrote very specific functional goals for a patient as below. *"Pt is able to donn/doff seatbelt, bra with min discomfort, lift bags & place items overhead without discomfort" (Artifact Pt #31).*

Professional Experience

When asked what influenced her to change her view of successful patient outcomes, Fugu immediately pointed out the direct patient care experience.

> [Y]ou have a lot of experiences that fall back on what worked and what isn't working with the patient. So…someone comes down and they are…going to be wheelchair bound? Are they going to be someone who is safe to live home alone? Are they going to be someone who can do steps alone? Well, you have a lot of prior experiences to fall back on and so well, Mr. Jones, yeah, he was similar and he couldn't do it, so the chances are this person probably is not going to be able to do it. Not to say that you not to try it but you can…start getting in your mind thinking, so I think when you eval someone you have to start thinking about discharging them at the same time. And what they are going to need for safe discharge. [Fugu1:279-286]

During her second interview, Fugu described how her prognostic abilities were built through repeated exposure to real patients with similar diagnoses or functional limitations.

> [I] think part of what influenced my beliefs is just repetition of seeing patients with similar diagnoses, or similar functional limitations or impairments, and kind of seeing how long it took, say someone who had total knee replacement to progress, seeing them in acute care, seeing them

> in rehab, and then seeing them in outpatient, then I could say, “OK, well the next 5 joint replacement[s] I saw or the 6th one,” I’m like, “OK. I’ve seen this. It take[s] this long. You are going to be discharged at this date, and this is when I’m expecting you to be walking normally.” [Fugu2: 9 - 14]

In addition to various clinical aspects, repeated exposure to a specific group of individuals had informed Fugu about their outcomes. This type of exposure influenced the way she would respond to so-called unmotivated patients.

> I think experience because I think when you first start out as a therapist, you think, you can do it. I went to school, I learned these techniques, now it’s my job to teach you how to do things, and then I think you realize as you get experience and you come across these patients. They don’t want to do anything…As much as you talk till blue in your face, you are not going to make them do anything and I think you can use certain techniques to try and convince them, like, I have couple of patients who it took everything out of me to get them to do anything. [Fugu2:74 - 76:78]

Fugu stated that this perception was shared by her colleagues. “[I] think that’s the hallmark that most of us therapists agree about that group of patient population, that they tend to respond differently than other patient population” [Fugu2:100]. Fugu admitted that she was walking a fine line between stereotyping and believing what her repeated observations showed her.

> And you try not to be judgmental and let your views influence because you want to give everybody a fair chance and not just automatically say, young guy, gun shot wound, and he is a malingerer, get out. But when they start showing signs you’ve seen over and over, then I think experience factor comes in and you are, like, “Errr, they are not going to do it…” [Fugu2:111 - 112]

Direct patient care experience also gave Fugu more confidence and latitude in her approaches. She admitted that she probably could not have done this as a new graduate.

> [W]ith the more experience, you get to the point where you can say to the patient, you can sit here and rot, you can get up and you can move, but you are not hurting me. I’m going to go home, and I’m going to enjoy my life. But if you don’t want to do anything, you are just hurting you. Like you are going to get worse. You are going to get more deconditioned, and you are going to end up not being able to move at all and stuck in the bed. And I think as a new therapist, you would never say that to a patient. So I think with a lot more experience…“It’s up to you. I’m not going to staying here to lift you every day when I know you can do, I mean, if you need my help, I’m willing to give it, but I know you can do it and you just don’t want to do it…I don’t have the time for you because I have other patients that need my skills.” [Fugu2:79 - 86]

When asked whether she had any influential clinical instructors (CIs), Fugu provided her view on patient care then and now by recalling a patient she encountered during her internship.

> I don't necessarily think the CIs influenced me, necessarily successful patient outcome because I think at that stage where I was at, I was more interested in just treat them well. I don't necessarily know if I was focusing so much on the long term outcome because I saw them for a short time…and there is a patient that I saw who I think about a lot because I think of now I could even do so much better in treating her and her outcome. She did well. She was a young girl who a horse fell on her and ended up having L4 or I think it was L2, L2 down, had no movement of her legs. And I think that I know so much more now that I could really make even better, even more facilitate with her treatment and outcome. [Fugu2:261 - 266]

In addition to direct clinical experience, Fugu cited her mentor who instilled in her the importance of paying attention to details that might be related to her valuing a thorough evaluation and treatment plan. When asked if her colleagues have beliefs similar to hers, she responded:

> I think the part of it is the philosophy of the place. [W]e have a certain philosophy that, we are going to do what we can do to improve patient's quality of life. And make them, and help them to become as independent as they can, and safe and to be able to go home, hopefully having some help from the family members. I think we all share that same beliefs. We just all have different strategies to get the patient there but I think the underlying belief that we really care about the patients, and we really want them to be better. I think some places, they don't necessarily care like that about the patients. [Fugu2:313- 318]

Personal Experience

Fugu learned different perspectives from her own injury experience as well as from her family member's hospitalization. Through her own injury, she gained very unique and complex insights of herself becoming more aware of her own physical limitations, becoming more empathetic to her patients' various pain behaviors, and at the same time becoming more resistant to those seeking permanent disability status without significant injuries.

> I got injured…the first month I started my PT career. I hurt my back lifting a patient, ended up with radicular symptoms, went through every test you can imagine, EMGs, nerve conduction velocities, MRIs, CAT scans, injections, nothing has helped. And I still have all the problems, and I think it has changed the way I treat patients because I capitalize it and I use…equipment to help me, I raise someone's bed. I get help. I don't believe in max or dependent transfers by one therapist. I think you should get help with this. For therapists that think they can maximally

> transfer 200 pound man by themselves are nuts. So I have just changed my philosophy in that and just get help. And I think, I come up with the ways patients can help themselves too. And I think that has really changed somewhat some ways I do things. I think having been injured, and I having people look at you, like, "Well, you look fine and healthy. Why are you in pain?" And you are like, "OK, I'm dying in pain." Has helped me to relate to certain patients when I'm like I can empathize with they are going through because I'm there. I think also though, on the flip side, knowing what I have had to deal with makes me less empathetic to some patients because I'm, like, "You can work." [W]e have a high population of patients here…that are on disability or claim they want disability and able bodies that could work but they just don't want to work. And you deal with that a lot in outpatient and I'm, like, "So maybe you can't do this job, but there is plenty of stuff you can do, I know because I'm, I've never stopped working." And it also makes me well aware of "Why the rest of your life, you are a young person, do you want to stop working?" [W]hat do you have to look…I don't understand that philosophy because…I don't know why they want to be considered disabled the rest of their lives, so it has helped but also on the flip side, it makes me really challenge patients to why they want that. [Fugu2:353 - 371]

When one of her family members was hospitalized, Fugu gained a different insight into being a health care consumer and appreciated a patient's need for a strong advocate.

> I've had a lot of involvement with different hospital, the insurance dealings from the family perspective, and not just from the PT perspective. And you really see how really crazy it is. And it forces you to realize what a patient advocate you need to be, for your family and, what people go through. So you kind of get to see both sides of it. [Fugu2:386 - 389]

Factor Sort Result

During the factor sort, Fugu wrote *motivation* as her first factor for successful patient outcome. However, it went to the fifth in the process of ranking them in the order of the most important to the least. Among all interfering factors, *poor motivation* and *compliance* remained at the top during the task in ranking.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*A good pt[patient]/therapist rapport*	*Poor motivation & compliance*
2	*Compliance with therex [therapeutic exercise] program*	*Multiple medical issues*
3	*A comprehensive evaluation*	*Poor treatment*
4	*A detailed treatment plan*	*Lack of family support*
5	*Motivation*	*Poor team approach*

Potential Researcher Bias

Based on Fugu's resume and interviews, the interviewer realized that Fugu was one year behind her in the same entry-level physical therapy program. That knowledge gave the interviewer some assumptions that she had a very similar academic education experience with Fugu.

Fugu was the first participant who could not recall an unsuccessful case during the first interview. However, upon further examination of the interview transcript, the interviewer realized that Fugu gave valuable responses to other questions that contained hypothetically difficult situations, such as difficulty forming a good rapport.

Conclusion

Fugu emphasized the importance of clinical knowledge, therapeutic relationships, and patient motivation as facilitating factors for successful patient outcomes. Her clinical knowledge was expressed through a thorough evaluation and a detailed treatment plan. To promote a good therapeutic relationship, she valued joking, and expression of empathy through close contact as opposed to a stand-offish approach.

Interfering factors were poor patient motivation and compliance, medical issues, lack of family support, incompetent care, and poor team approach.

Fugu's beliefs about successful patient outcomes had changed to focus more on functional mobilities. Both her professional and personal experience influenced in forming her beliefs. Among various professional experiences, the main factor was her direct patient care. By repeatedly experiencing similar cases, Fugu had built a data base in her mind that she could consult whenever she had a new patient with a similar clinical status. Repeated exposure to a particular group of patients also informed Fugu with respect to the ways to deal with unmotivated individuals. It also made her be aware of her own limitations, a sign of her metacognition. Being a patient herself as well as a family member of a patient, Fugu's insights of successful patient outcomes had grown in new dimensions.

Interviewee Summary
Ebi: "The patient feels that they got their quality of life back."

Interview Dates:	4/29/03	5/27/03
Interview Time:	2:00 – 3:00 pm	2:00 – 3:00 pm
Interview Location:	Ebi's outpatient booth and the Chief PT's office at her clinical practice site	

Interviewee Characteristics

Ebi is in her late 30s and currently works as a Clinical Supervisor at a large Trauma Level I teaching hospital with a total of approximately 10 years of clinical experience. She has been working at her current site since receiving her master's degree as an entry-level PT degree. Her current position consists of 60% patient care and 40% administration. She has been actively engaged in teaching as a clinical instructor for physical therapy interns. She was also previously involved in the laboratory instruction of an academic institution (Resume 5/27/03). She has rotated through all the services and describes that her niche lies in acute pulmonary rehabilitation, including ventilator weaning. She does not have a significant personal injury experience. However, she had an experience as a caregiver for a family member. Other demographic data indicate that she is White, married, has one child, and her religion is classified as Catholic (Demo form 5/27/03).

Coding Characteristics

Among 17 axial codes, Ebi's first interview was coded with 13 axial codes, while the second interview was coded with 11 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Ebi's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three prominent concepts that Ebi illuminated throughout her two interviews as important factors for successful patient outcomes. They were the dedicated team of caregivers, including the physical therapist, and patient motivation. The patient's family support and the patient's comorbidities were also addressed; however, they were included in the interfering factors section in this summary.

In her narrative of her most memorable successful case, Ebi described her patient as a woman in her 40s with reflex sympathetic dystrophy (RSD). Her leg pain became progressively worse to the point where she would need her son to carry her from the first to the second floor. She was extremely motivated but frustrated with her condition because her multiple admissions to the hospital did not resolve her problems in the past. At the patient's third or fourth admission to the hospital, Ebi realized that she would be able to resolve this patient's problems with her desire to make a difference in the patient's quality of life. Ebi first acknowledged her lack of knowledge about RSD through her metacognition and consulted her peers who might have practical recommendations with respect to the appropriate interventions. An occupational therapist who was familiar with RSD provided Ebi with information about transcutaneous electrical nerve stimulation (TENS) and desensitization techniques. Ebi treated the patient daily and, in 3 months, the patient walked out of the facility with a cane, which was a significant successful patient outcome for Ebi and the patient. Both of them were elated with her progress. In the following excerpt, Ebi's tone of voice reproduced her joyful memory.

> She was excited, she was so happy that…she saw her pain was minimized. So she was just motivated, excited to go up to the rehab floor, and I was wondering why it never happened before, and…she was just very happy every time I saw her, and when I saw her walking around, oh my God, she looks great, up and down stairs…[Ebi1:49 - 50]

When probed further to determine why this was considered a successful case, Ebi stated two levels of accomplishments. These were to send the patient to an inpatient rehabilitation service upon discharge, and to see the patient walk out with a cane.

> Well actually, my first success was actually getting her on the rehab floor, and she was approved. And my recommendations weren't just brushed off …the physicians faced me to say, "Hey, you know what? If you say she is a good candidate then fine." The second success was just actually seeing her walk out of here on a cane, I mean, not walking [for] 3 months, she's been debilitated, and I know she has her nephew's wedding next month and wanted be there without the wheelchair…Now she can walk. So that was amazing, and in a short period of time, like in two weeks. [Ebi1:78 - 82]

PT's Dedication

In Ebi's view, a dedicated physical therapist would share several common traits, such as being persistent in the pursuit of the patient's quality of life, continuously improving himself or herself, and further appreciating the profession he or she is a part of. She elaborated on what she meant by dedication to the profession in the following.

> The therapist may go through the motions, coming in 9 to 5, getting my paycheck. But if, being a professional, you need to go beyond your work hours, you need to sit, make calls you should not need to make, make sure people get the equipment they need, or to make the contact that you need, so you need to have some type of dedication, wanting to better yourself, going to continuing education, going for your DPT, maybe teaching, I think that also will make you have greater appreciation for the job, and want to do more for the patient and trying to guarantee successful patient outcomes. [Ebi1:229 - 230]

Referring back to her most memorable case, Ebi described the process that lead to a successful patient outcome. First she understood the patient's real problem, then researched the possible solutions. She was vigilant throughout the course not to have the patient fall through the cracks.

> I think one thing that made this case success was that...I am not going to pat myself on the back, but I am…People are like, “this is going to be too much of a problem, we are just going to send her home.” People just don’t realize what her complaint was and that we had the ability…to address that. So trying run around and try to gather up information and look at other disciplines for information, but not allowing her to fall through the crack, and say, “We can do something about it. Hasn’t anyone talked about it?” No one ever talked her about outpatient therapy or TENS unit…to realize, “Hey, I think I can help fix this problem, and to do it.” Because what I could have done is I could have just set her exercises and let her go home because the primary team was sending her home. So instead I made a bunch of phone calls and to get her to stay. And so, recognizing that “Hey, you know what? This is what we can do.” I think that made it very successful. And the fact that everyone else was willing to jump on board to try to help to straighten it out. So I think that…between the dedication of the profession, communication between disciplines, and the patient was just so excited, so three of those [factors] right there. [Ebi1:238;240 - 251]

When asked about her approach or if the outcome might have been different if the patient were 70 years old, Ebi first denied any difference. Then she revealed a very intangible difference that might exist in the urgency of care for a relatively young patient as opposed to an older patient.

> I want to say no, but I have a feeling it might have been a little bit different. Maybe I might not have tried as hard, which is really horrible… to say, but I know if I see a patient, right now I’m having a patient who is 23 years old, I am trying everything in my power because she is so young, and she is here so, “Hey we need to do this,” and with 70, I think I would still probably do this but not to the intensity, I wouldn’t be like, “Wow, somebody need to do something.” It’s horrible to say, but it is there. Yeah. It’s there because it is so weird to see such a young patient come through our department. So when we do…we need to do something. [Ebi1:263 - 268]

Dedicated Team of Caregivers

When Ebi elaborated on what she meant by *efficient communication between disciplines*, she stated that the team was able to share mutual goals and to respect one another, and to keep an open channel of communication, rather than simply timely and efficient communication. It was considered as if she was describing a dedicated team of caregivers.

> The disciplines know that they are working together for one common goal and not saying, “OK well as a PT this is what I’m going to do, not OT, they don’t do anything but the arm stuff,” or knowing that we work as a team to try to get the patient back home and to improve their quality of

> life, and it does not have to be within the physical medicine and rehab. You want to have efficient communication with your case managers, your social workers, physicians, transportation, so that the patient isn't waiting and uncomfortable and does not want to come to PT because they have to wait an hour to go back to their room, so everyone across the board have to communicate. And if I as a PT see that I think this patient has psychological issue or needs, would benefit from that, it is up to me to go seek that personnel to get the patient the help they need while they are here. So I think everyone have to be able to communicate, not being intimidated by other discipline to help that patient because again, you don't want them to fall into the crack or not being able to get the service that maybe could have prevented them from maybe going to nursing home…I think communication between us as professionals is very important. [Ebi1:145 - 149]

When asked how she perceived the current teamwork and communication status, Ebi admitted that it wasn't easy to communicate with doctors.

> [T]he hardest thing is to talk to the doctors, of course, so you really have to plead your case. Be very professional and know what you are talking about to gain that respect. They are the hardest act to follow…But everyone else is very receptive and "OK, this is great." Doctors want to question you a lot, and it is like, I really know what you are talking about, can we try this. So that, you may have to like really sell. [Ebi1:160 - 165]

As a physical therapist who is a patient advocate, Ebi was emotionally charged in her tone of voice as she provided the following example of how her recommendations could be easily brushed off by the doctors.

> You want someone to go up to the rehab floor, but the doctors are like, "You know what? No, they are end-stage cancer…" They deserve their quality of life too. Don't look at the finance and number, look at the patient. So that has a lot to do with the successful patient outcomes and what are you looking at? Are you looking at the bottom line, or are you looking at the patient? [Ebi1:167 - 171]

Ebi further described that some healthcare team members would excuse themselves from attending the patient's needs due to being overworked or being perceived to be too much of a hassle.

Patient Motivation

Ebi acknowledged that, without patient motivation, regardless of how dedicated the therapist and the team were, the patient might have not reached a successful patient outcome. In the following excerpt, Ebi implied that the patient motivation could be promoted by his or her understanding of the dedicated physical therapist's positive impact on his or her quality of life.

> [I]t is our job as therapists to explain to the patient what we are doing, what our plans are. And the patient has to want it. They are just going through the motions because they are here in a hospital, well then you are not going to have successful patient outcome. You need to explain, and you tell the patient you will be an advocate for them, and this is what we are trying to do, and the patient should want it and be motivated for it because, if not, it is just not going to work. [Ebi1:179 - 182]

In some situations, patient motivation could be promoted by various interactive strategies. The art of interactive strategies include being honest in explaining the potential consequences, having the patient observe other patients' progress, involving family members, or simply taking time with the patient.

> [I]n certain cases, just explaining to them, or making them realize, "You know what? You are a bit of a burden." I mean it sounds harsh, but they may not realize all that they are relying on their family members that they really have the ability to do it themselves. And bring them to the gym and let them look at other people or bring in their family and talk and get them excited about therapy...People have done really good afterward bitter and all that cranky gentleman in this room, and they turned out to be sweetheart and fine, you just have to crack them out of the shells. You just have to take time and do it. Sometimes it works and sometimes it doesn't. [Ebi1:187 - 193]

Ebi acknowledged that some patients carried themselves through with their strong beliefs about not wanting physical therapy services.

> [T]he patient may just [say], "I am happy the way I am and that is the way it is going to be"…some people might just they don't want to have too much pain, they don't want to move, "My family is going to do for me," then that is not going to be very successful. [Ebi1:184]

In her most successful case, Ebi stated that the dedication of her and the team and the patient's motivation synergistically worked towards the successful patient outcome. When asked if those three factors were necessary for the successful patient outcome, Ebi replied: "I think they are necessary. [I] can't think of a case where people just happened upon success. People have to work at it" [Ebi1:257 - 259].

Interfering Factors for Successful Patient Outcomes

There were three predominant factors that Ebi illustrated through different patient scenarios. They were the patient medical status/comorbidities, the lack of family support, and the lack of healthcare access/insurance. *Decreased cognition* and *poor communication between disciplines* were listed in the factor sort. However, closer examination of the transcript suggested *decreased cognition* to be discussed within the lack of family support description. Poor communication between disciplines was the opposite dimension of the same concept discussed earlier, dedicated healthcare team, and thus is not discussed in this section.

Contrasting with Ebi's effortless task of reciting her most memorable successful case, recalling an unsuccessful case was a struggle for her. She appeared to perceive a patient's death as one of the worst patient outcomes.

Patient Medical Status/Comorbidities

She described a 60-year-old woman with advanced lung cancer. The patient was working full-time for the university system, but she was put on disability since her cancer diagnosis. Ebi was consulted for home safety and equipment recommendations. During Ebi's initial evaluation, she found that the patient was experiencing an acute lower extremity weakness that had potential for recovery. She further described her response to this patient's needs and desires.

> She broke down and she was crying, and she wanted go to a rehab. And I felt that she needed to be given a chance to go to rehab, so she can go home with her husband. And they lived in a multi-level home, and her husband needed time to get her a first floor set up, and they are sending her home right down and there and discharge paperwork and everything. [Ebi1:324 - 326]

The patient was successfully transferred to a rehabilitation unit; however, a sudden decline in her medical status required her to return home immediately before it was too late. Ebi perceived this as unsuccessful because of her disease process.

> So that was unsuccessful to me…we worked and I thought everything would be fine, but her disease process apparently was worse than what was documented or perceived. And of course… way to go, you bring her upstairs [to the rehab unit], well, my heart felt that she needed to go there to have a better quality of life for what how many ever many weeks, months…I really didn't think it's days that wasn't in the picture...So that meant me unsuccessful because I feel like I made a bad decision by pushing to get her. She is in a hospital now for another week or maybe she could have gone home for that week, but she would not have been happy. [Ebi1:336 - 339]

Ebi expressed her ambivalence by further reflecting on the decision that she had made for this patient.

> It turned into very unsuccessful, because I don't know if I made the right decision now. Was it a bad call, or unsuccessful in the patient side because now of course she is at the end stage and I don't know how long she has…but that…would be unsuccessful. And she is debilitated as or more debilitated than when she came in. [Ebi1:342 - 344]

Ebi continued to search for more cases, but all the cases she could recall had one thing in common--an unexpected death. “To me, it’s like unsuccessful case is the disease process” [Ebi1:361].

Lack of Family Support

Without soliciting, Ebi persistently searched for an unsuccessful case without a death. As she described the patient, Ebi seemed to be unsure at first, but as she continued describing, she was affirming that this was indeed an unsuccessful case due to a lack of family support. “We are getting to a point she can go home, but her family doesn’t want her. She is high functioning but sending her to a nursing home. I mean, I guess would that be an unsuccessful?” [Ebi1:367 - 369]. Despite her multiple post surgical complications, this patient overcame every single one and she regained her physical functions through physical therapy.

> This is an unsuccessful case…she had gone to another facility in the area for a valve replacement, and it looked like the valve replacement had gone awry because she ended up with failure to wean off out of ventilator, and she ended up with incisional infection, so the plastic was following her for that, and she had kyphoscoliosis which of course worsen her pulmonary function. So she has been in a hospital, between that hospital and this hospital, for a couple of months now, and got her to the point where we were walking her on a portable ventilator, beautiful. She was like supervision. We took her off from that last week and put her on the Vapotherm... [Ebi1:374 -378]

Ebi continued to describe this patient’s functional improvement, such as walking 200 feet. However, without her family’s support, she required a nursing home placement.

> And they had a family meeting to decide what is going on, and her family doesn’t want her. So they are putting her in a nursing home, and her husband is a physician. And it’s very sad and very shocked about this because functionally, she could be successful. Like she is doing great, and we are going to get her off of this [ventilator]. She may need some type of night time supplemental O2, whether if nocturnal ventilator or what have you. Functionally she is beautiful, doing great, but family support is not there. She is going to end up in a nursing home which means she will be debilitated, and she is not going to do much. That’s poor outcome. That is not a successful patient outcome. [Ebi1:385 - 393]

For Ebi, the nursing home placement caused the patient to have less mobility, more debilitation, and even caused her demise.

> She is going to a nursing home, OK there is depression, she is not going to get around much, especially she is hooked up with some kind of supplemental O2, and she is going to get worse, and that is going to lead her for her demise…that’s very unsuccessful. [Ebi1:401]

In the above case, the lack of family support was indubitably the main interfering factor with the successful outcome. When probed further to determine if it was the only factor, Ebi described how motivated this patient was. However without her comorbidities, such as kyphoscoliosis and restrictive lung disease, the outcome would have been different.

> It's her family, because this woman is the most wonderful, compliant, motivated, pleasure to work with, knowledgeable. She, she is an amazing woman who has gone through so much and she had a lot of comorbidities and I think one big comorbidity is her kyphoscoliosis which made her AVR [aortic valve replacement], a routine AVR, all of a sudden ventilator because of the restrictive lung disease. So because she had co-morbidity that the hospitalization was prolonged…so I guess that is one, too, because then she wouldn't have to worry about the supplemental oxygen, you know I am saying? Maybe she wouldn't have been on the vent unit, if she didn't have her comorbidity. [Ebi1:414 - 417]

Ebi listed *decreased cognition* as one of the interfering factors during the factor sort. She described how decreased cognition could lead to a change in the family's attitude towards the patient which might result in a nursing home placement.

> A lot of times patients come in and living alone and they have safety issues, the chances are they are not going to go back home. They are going to end up going into a long-term care facility, I guess, could be successful because you are kind of saving this person but yet, the quality of life is, like, they are not in their home. So it's kind of unsuccessful, so you really kind of stuck with the family don't want them because they think they are crazy, or they are going to hurt themselves, or so I think, like, that is really tough. And start getting dementias and everything, and family was functioning prior, and the family doesn't want them, that's unsuccessful. [Ebi1:439 - 442]

Lack of Healthcare Access/Insurance

As a strong patient advocate, Ebi expressed her frustration when she believed that the patient would benefit from services that he or she would not be able to afford or are denied the coverage by the patient's insurance company. Ebi used an example of a young patient with traumatic brain injury (TBI) who would benefit from a specialized rehabilitation, such as cognitive rehabilitation.

> A lot of times you are trying to make recommendation, and you know what this patient need more than anything, however the patient doesn't get approved for anything…traumatic brain injury program and their insurance saying no, they are going to end up going to a rehab that maybe can't handle a TBI program, or can't do all the cognitive retraining that need to be done. And I've seen that where young kid who needs cognitive retraining but their insurance is, like, "No." "Well, yeah. The patient needs this," so a lot of times you are fighting with the insurance companies but they don't understand and that is very frustrating, and the

> patient is not going to get the care they need, and it's unsuccessful because that means they may not be given the chance to recover to the fullest capacity because they are not in the facility that can accommodate them. [Ebi1:460 - 465]

In the following excerpt, Ebi decided to offer pro bono service, because the wound degradation could not wait for the insurance approval for specialized wound care.

> And I've had that happen, even burn patients, where the burn patient needs to come here for the dressing change because we are specialized, however the insurance would only approved [facility A]. [It] does not have the facilities for it. And I said, "That's it." We brought them in for pro bono. Because they were, like, "Well we need to talk them and it's going to take a week." "No, the patients need to come in for dressing change NOW." So that would be unsuccessful with insurance company would not understand the patient's needs. [Ebi1:466 - 470]

Ebi's frustration was palpable from her comment as well as her tone of voice and her posture regarding her constant fight with the healthcare payers. "So it's time consuming, and productivity decreases, and you are going to be on the phone and you are going to be aggravated" [Ebi1: 474].

> You try, but a lot of the time us calling or case management calling and appealing, and appeal process takes so many different denials for rehab, and then you have to go back and appeal, sometimes we win sometimes we lose. But that is another day that you are losing and not treating the patient the way they need to be treated. So that is a big stumbling block right there. [Ebi1: 484 - 486]

Perceived Influences in Ebi's Belief Formation

Definition of a Successful Patient Outcome

Ebi stated her definition of a successful patient outcome after she described her most memorable successful case and factor sort activity. She affirmed that the success should be determined by the patient's point of view. She also acknowledged that the patient and her goals might not be congruent in some situations.

> I think that the patient feels that they got their quality of life back, that is success for me. It might not be my goal, my goal might be "OK I want you to walk X amount of feet,"…but the patient walks a quarter of that and so happy and feels that they have their quality of life, that is a successful patient outcome. [S]o it is more on the eyes of the patient than…If I see some of my patients thankful and gracious and oh my God, and that is the success. [Ebi1:87 - 89;91]

When asked to describe how her definition changed from 10 years ago, Ebi replied:

> [B]ack then, if I had to define successful patient outcome, patient got discharged and able to walk. And I don't know if I would look into all these factors I talked about, the communication, the family support, the insurance, the case management, and I think now I look beyond just what I see in the patient, I look beyond it all. You know what the patient is feeling, what the family feeling and I think instead of…I am more global, whereas before…I was just like I had tunnel vision…[S]o I definitely become more global. [I]n the first year or two everything was cut and dry, and I'm doing this, this, this, and this, but now it is just wow, there are a lot of stuff going on in order to be successful, so I think, I definitely broaden my view. [Ebi1:298 - 300;302 - 303]

PT's Professional Experience

Ebi denied any singular incident or event that triggered her to change her beliefs, but her experience at her current facility was the most significant influence on her beliefs. The experience could be as a clinician, an administrator, or as an instructor. She stated her improvement in her metacognition--understanding her own limitations--to avoid a delay in seeking assistance. "We are definitely not ashamed to say, 'I don't know' because there are a lot of things that I don't know or I forgot, so I'm always looking up things" [Ebi2:341].

> I think it was definitely a gradual change and the experience has helped …as a newer therapist, I still would have researched if I didn't know the answer, and I still do now 10 years out, if I haven't seen it in a while, I'll research it. So that I would say would be the same thing I would have done 10 years ago, but I think realizing that the problem was far deeper than PT and to seek out other disciplines, I might not have done it as a newer therapist, realizing that maybe I didn't have enough clout to go to somebody in another profession but here just recognize that it's beyond me, and somebody else need to be involved. Back then I might have not done that... [Ebi2:216 - 219]

When asked whether her experience as a supervisor affected her beliefs about a successful patient outcome, she stated that indeed it did. Particularly, the knowledge of financial and operational aspects of healthcare gave her a chance to see through a broader scope.

> So I think that once I became a supervisor back, '96,…now…I see everything more broader picture, because I see the financial end of it. And the things we shield beyond the staff from, that they don't really necessarily need to know so I see now, OK, I need to respond to this consult quickly, OK, if we have so many denied days, well that means when I do my job, OK…people are going to lose their jobs, so I look at it. I look at the other end. [Y]ou want to because it's almost like calling for precertification of the insurance company, they don't know a diagnosis, or

> here now I'm looking at things just, a little bit differently. [Ebi2:104 - 107]

Ebi described how her entry-level academic education gave her the base knowledge, but what she gained through her clinical experience was perceived as far more significant.

> It's really sad to say, but back then, the program was so new with us…we were the second graduating class. And I think back, I learned everything after I accepted my job here. OK my education taught me your basics, but when it comes to the successful patient outcomes, on the job. I think it's on the job training because, when I graduated, and I started working here, I was scared. I didn't know anything. I didn't feel like I went to three years of school, but it definitely gave me, the ground work, but then it's on the job, and you develop how your style and to be able to understand a lot of the other issues, again, according to financial issues, these are the things, you don't learn, we didn't learn 10 years ago. [Ebi2:197 - 202]
>
> [T]here wasn't any clinic(al), like at least now there are a lot more clinical applications, even down the basic skills are so much different now than it used to be. And I think…we've never did that basic skills, and maybe we should have, so things are definitely changed for better academically, but I still think it's on the job. [Ebi2:205 - 206]

Being a clinical instructor and teaching students, seemed to activate Ebi's metacoginition--understanding herself better.

> [I]t makes you realize that you know more than you think you know just talking with students [smiles]. But these are going to be your future clinicians, so I'm going to give them everything I can while they are here with me, because they are going to be my peer, and it also they bring the table a lot of knowledge, too, that being out for 10 years things have changed, programs have changed, and courses are different now, so it's kind of nice to see a new perspective and what's going on and what are they teaching now in schools and programs, especially now the DPT with the other different kind of programs that we didn't have access to when we graduated. But it's…a nice kind of relationship, they are teaching us as well as we are getting them all the knowledge we've gained, clinical knowledge, not just the book knowledge. [Ebi2:167 - 169]

When asked about any particular individual that might have impacted Ebi's beliefs, she denied any single person's influence, but she rather stated that all of her dynamic colleagues at her current facility had influenced her beliefs. One of the facilitating factors, *PT's dedication,* appeared to be shared by the whole department.

> I think all of us are on the same page when we are dealing with patients, and we are all willing to go beyond, there might be one or two that come in and do their job. But on the whole, I would say 95% of our staff would

> do the go above and beyond, so. I think this department is unique. [Ebi2: 45 - 47]

Ebi added that her perception was shared by newly hired experienced staff and the physical therapy interns at her current facility.

> As a whole, we are very unique staff compared to any other place I worked at. And when the therapist come in that transferred from other job, they can't believe. And even students remark about how dynamic and how willing in the art of learn and teach and things here. So I think the whole department is unique, and that's why I haven't left in 10 years. [Ebi2:51 - 54]

Ebi acknowledged her staff's passion in teaching and learning with the physical therapy interns as future colleagues.

> I think the biggest thing is staff cohesiveness. I think we are all like a family. And we are open to everyone's ideas, and even…you have a new grad that comes up to me and say, "I think, maybe you should do this."…I will take it…I'm not going to say, "Why 10 years of experience, I don't know what you are talking about." So we all work very close together. So I think that is really unique and…very dynamic and the fact that we love to teach. So we have a huge student program, and so, we are not bothered by it. We love it. We love to go next door and teach what we can again taking students. So I think that the way we are really unique. And the people that are here right now love their job. [Ebi2:117 - 128]

Ebi stated that this dynamic and cohesive staff exchange thoughts all the time. When asked whether her peer's input might influence her beliefs, she responded positively.

> But just trying to see both ends of it…But I think ultimately it is what the patient wants and then you have to make sure that you can make them safe. Some one not want to go to skilled nursing facility [SNF] or subacute rehab, you can't make them. So what can I do to get them home to be as safe as possible. [I]f two co-workers are having a discussion, "Well, what's the patient want?" And then you have to go from there. So it's not going to matter if I say they need to go to SNF. If the patient doesn't want to go, they are not going to go. It's patient's rights and responsibility. It's the first thing people get in a packet on admission. You have to honor that. So yeah, we can have heated discussion all you want and yeah, you may change my mind. And there has been times…I've even never thought of that." So but again, ultimately it's patient's decision, either competent or decompetent. [Ebi2:319 - 333]

The purpose of her attending continuing education courses was to improve her own knowledge base, to network with professionals outside the facility, and be more interested in her own profession. Upon completion, she valued sharing new and more cutting-edge ideas with her staff.

PT's Personal Experience

When her family became a healthcare consumer, she realized that they might have fallen through the cracks of the healthcare system. Their healthcare professionals did not offer her information about healthcare services that they might have been benefited from. That negative healthcare experience might have motivated Ebi to be a patient advocate, empowering the patient and his or her family through providing information that they could use upon discharge from her facility.

> Maybe it impacted me a little bit because there are services out there that we weren't aware of, we are as the caregiver that are out there. I get it for patients, so I make sure that they have the available services necessary post discharge, if the family member needs the extended care and things like that, where, but I wish I knew that back I was helping out and taking care of my family member, I wish because nothing was ever extended to us. So I would hope that I wish that someone would have come to me and said, "You could have this service, this service, this service." That would have made our lives easier. So I make sure that people are, I recommend what they need if they are having problems whether it would be a long-term illness kind of things. So I think it definitely made me realize that I can still make an impact after the patient leaves the hospital. So and to get them set up and get them the equipment that they need, the services that they need... [Ebi2:295 - 301]

Factor Sort Result

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Efficient communication between disciplines (i.e., OT, PT, case management) to facilitate d/c or transfer to appropriate facility*	*↓ Pt Cognition/ ↓ carryover/ ↓ understanding of their deficits*
2	*Pt motivation/understanding of PT*	*Poor family support*
3	*Pt family support system*	*Insurance restrictions*
4	*Pt comorbidities (the fewer a pt has the more successful the outcome may be)*	*Poor communication between disciplines*
5	*Dedication to the profession/wanting to make a difference*	*↑Pt co-morbidities*

In the process of ranking the factors in the order of the most important to the least, *efficient communication between disciplines* remained the most important factor for successful patient outcomes. Ebi wrote *poor family support* first as an interfering factor;

it came down to second on the list when all the interfering factors were ranked from the most important to the least.

Potential Researcher Bias

Ebi and the interviewer graduated from the same class in the entry-level academic program. That shared experience gave the interviewer a fairly good understanding of her perspectives at the beginning of her career. Therefore, the interviewer was consciously paying further attention to learn about her clinical experience and her beliefs through follow-up questions while Ebi was addressing questions about her colleagues, her department culture, and her values.

Having the opportunity to supervise, to lead a department of rehabilitation professionals herself, the interviewer could not help but solicit her perspectives on how her administrative tasks impacted her beliefs and views about successful patient outcomes.

Conclusion

Ebi believed that dedicated team of caregivers, including the physical therapist, and patient motivation were the most important facilitating factors for successful patient outcomes. All of these factors promote to achieve the larger scope of success.

Ebi believed that the most significant interfering factors were the patient medical status/comorbidities, the lack of family support, and the lack of health care access/insurance. Ebi's metacognition was evidenced especially when she was discussing the unsuccessful cases.

With all her experience, such as clinical, administrative, and teaching on the job, Ebi gained a much broader view of successful patient outcomes. All of the members of her dedicated group of colleagues at her current facility appeared to be a strong source of her professional growth and potentially influenced her beliefs about successful outcomes. Her entry-level education was minimal, but her clinical experience was perceived as far more significant in contributing factors to change her view of successful patient outcomes. Continuing education had a unique role in breaking her routine and gaining new ideas or techniques to share with her colleagues. Her personal experience, particularly her family member's illness, offered her motivation to avoid her patients falling though the cracks.

Interviewee Summary
Sake: "I want to help people in a way that maximizes their independence, freedom, and their ability to do whatever they want to do."

Interview Dates:	5/20/03	8/11/03
Interview Time:	2:05 – 3:10 pm	2:00 – 3:00 pm
Interview Location:	Sake's outpatient booth at his clinical practice site	

Interviewee Characteristics

Sake is in his early 30s and currently works as a Senior Physical Therapist at a large Trauma Level I teaching hospital with a total of 10 years of clinical experience. His clinical expertise lies in cardiopulmonary care, particularly in complex cardiac cases. He takes an active role in clinical teaching and serves as a co-CCCE (Center Coordinator for Clinical Education). Throughout his career, his main area of practice has been in adult acute-care hospital settings. He received his master's degree as an entry-level PT degree. He indicates that he had an injury experience but did not require physical therapy. He states that he experienced a family member's illness as a child. Other demographic data indicate that he is White, married, has two children, and his religion is classified as Catholic (Demo form 8/11/03). He has enjoyed his talent in creating poems since he was in high school (Artifact Poem). He has been practicing Aikido, a martial art, for the past 2½ years.

Coding Characteristics

Among 17 axial codes, 12 were used to code Sake's first interview, while the second interview was coded with 13 codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Sake's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three prominent concepts that Sake illuminated throughout his two interviews as important facilitating factors for successful patient outcomes. They were the therapeutic relationship, PT's clinical knowledge, and patient motivation. The factor sort items *interpersonal communication* and c*onsideration of patient's needs, values, & goals* will be discussed within the concept of therapeutic relationship building, while *Pt understanding regarding role of PT* will be discussed within the concept of patient motivation. For each concept, Sake's quotes are used to illustrate the concept's meaning and application in his actual patient care.

In his narrative of his most memorable successful case, Sake described his patient as a woman in her mid-50s, with some type of intrathoracic tumor. She underwent a cardiothoracic surgery and a plastic reconstruction of the chest wall with a muscle flap. She was from an affluent suburb, and her presentations corresponded with that background. She had some balance problems without fall history. Sake introduced the concept of an assistive device for her gait safety, but she denied the need completely at first. During at least one of the treatment sessions, she was teary, with both physical and psychological pain, and Sake became aware of the need for appropriate interactive strategies in addition to his clinical expertise.

Therapeutic Relationship

Sake thought it was a successful case because he was able to guide this patient through a very difficult recovery period. Along the way, they made a good therapeutic relationship so the patient became open to his recommendations.

> I call it successful patient outcome because...the things that happened during her hospitalization happened where I could help kind of guide her through the very stages that were happening, and offer suggestions…how she might combat each particular stage. And gave her suggestions what she may do at home. Did family education. Did education with the patient. [I] think maybe I laid the groundwork with how I did with that soft touch kind of things. We have made her open to some of the suggestions perhaps that I was giving her. [Sake1:27 - 32]

Sake understood her needs and continued to improve understanding of her by selecting an appropriate interactive strategy for this rather needy patient.

> She was, someone who really…presented as that hospitalization veteran sort of thing. She could spot the PT coming miles away. She knew she was having pain issues. She knew when to anticipate the length of stay. She knew how things were supposed to shake out, so initially when I came in, until I figured her out, she was a little bit of...hostile is a too strong a word, but someone who was upset, uncomfortable, and somebody I had to make an interpersonal decision on…what dial…to choose to interact with her quickly. So initially, it was a little bit bumpy, but then as I change my strategy, it went well. [Sake1:36 - 41]

Sake further described how he matched her needs and his interactive strategies to promote an optimal therapeutic relationship with this patient.

> The biggest thing with her was that she needed someone to deal with her correctly interpersonally as what my impression was. That meant…she needed someone to be clinically knowledgeable, honest, open, but also patient with her responses, understand where she was coming from, understanding the fact that she was uncomfortable and not herself. And understand that it may take a little bit longer than a normal patient in order to treat her successfully. [Sake1:60 - 62]

Sake described another patient whose psychological pain was much more significant than her physical pain due to her loss of her child in an auto accident. Sake stated that he was very conscious of how he interacted with her as well. He was proud of his ability to select the most effective approach. “I kind of proud myself on figuring out what the patient needs are and interacting with them and depending on that I think what works best" [Sake1:87]. Sake acknowledged that the therapeutic effectiveness could not be achieved with the clinician's technical knowledge alone.

> You have to be able to talk to the patient, discuss with the patient, teach the patient in a way that they are going to maximally understand, be motivated by what you are saying, feel genuine caring and concern on your part that transfer to them. You can be the most knowledgeable person in the world, but if you are bad communicator you won't be effective in what you do. [Sake1:111 - 112]

To promote a good rapport with patients from diverse backgrounds, Sake warned not to ignore the patient's specific needs, values and goals. Without attempting to understand the patient, the optimum outcome could not be anticipated.

> If there is a patient who we come across who might be of a different culture, different socioeconomic status, that have certain expectations or ideas about the way things may happen. And if we…butt head, so to speak, and ignore what those patients' individual needs are, we disrupt what I said in number one [in factor sort] interpersonal communication, you disrupt your rapport, your relationship with your patient and set yourself up to have sub optimal outcome. [Sake1:118 - 119]

PT's Clinical Knowledge

Sake elaborated on what he meant by appropriate clinical skills to treat given problems. He first pointed out all the procedural and technical knowledge that would be associated with his daily practice in cardiopulmonary intensive care and then how the patient's confidence in his expertise would help improve the therapeutic relationship, which would further facilitate successful patient outcomes.

> Knowing the information in the chart, knowing the information that different monitors are giving in the ICU, knowing how different equipment works in the ICU, but also have these other basic PT components, like, using good mechanics for bed motilities…transfers, being able to adapt those kind of situations and skills based on the patient's presentation. I think...all that in addition to all the things above help form that rock solid rapport where and confidence that the patient may have in me so that you are on the same page and you can both work toward the same…outcome. [Sake1:171 - 172]

Specifically in his most memorable successful case described earlier, Sake was able to bridge the gap of knowledge between the two surgical teams based on his extensive experience in the intensive cardiothoracic postsurgical care.

> [B]ecause…plastic surgery was involved, flap was involved, and the chest wall...nobody on the cardiothoracic side of things ended up asking there was any kind of restrictions because of the flap, but I made that call and,

> lo and behold, there were. And again, there were some things that I passed it along to her and her husband. [Sake1:46 - 47]

As a physical therapist, Sake was able to make the connections between the surgical precautions and the need for safe functional mobilities.

> [N]ot only the education about the flap process but also with that meant any connection with functional mobility kinds of things, especially bed mobility and how in general, because that was a fairly fragile area that the use of the assistive device would also be of benefit to keep her safe in order to protect that area from the act of fall or trauma. [Sake1:69]

Patient Motivation

Sake stated the PT's role as a motivator through understanding the patient with the selection of the most effective interactive strategies, because the PT could be powerless without patient motivation.

> Patients come to us in all different frames of mind and they may be very motivated, they may be completely unmotivated, or may be somewhere in the middle. I see as part of my role helping someone to be more motivated, to resume normal life outside. Without the patient's motivation, without the patient wanting to do something, you have nothing. [Sake1:141 - 143]

Sake described another patient who could not return home for 8 months after his heart transplant. In the following excerpt, Sake describes once again the value of understanding the patient's goals, desires, and psychological status, so that he could use that knowledge to motivate the patient.

> I had a patient recently who was…I guess he was here about 8 months after his transplant, and he never went home. He had a miserable hospitalization and I knew of the things he's gone through waiting for his transplant. I've been with him most of the things he's been through after his transplant. I knew where he was psychologically. I knew how much he loved his family, how much he was eager to get home to them. I knew what his goals were posthospitalization. And not only…did no one knew these things and appreciate these things help me as I interacted with the patient, but also served as motivation factor as I reminded him about those things when we came to a little bit of a dip in our progression [Sake1:123 - 129]

In addition, for him to understand the patient, Sake addressed the need for the patient to understand the PT's intention in the physical therapy session. In the following excerpt, Sake attempted to explain to his patient that what he does was for the patient to achieve his or her own goals.

> To me, this is pretty connected to patient's motivation. And I think that when patients hit a slump for me, I typically remind them of what their

> stated goals are to me. And what goes along with that is, "Do you understand that I am trying to help you reach these goals. And that's why I want you to do this. That's why you come down here. That's what my job is all about and I'm here to help you to accomplish this." And I think sometimes people forget that and… need reminding at times to get to achieve these outcomes. [Sake1:208 - 213]

Providing hope and being persistent may be required in order to motivate someone whose prognosis so poor that no one else would be motivating the patient. In the following excerpt, what mattered most to Sake was the patient's best effort which was coupled with his genuine care, not the final physical outcome.

> But people didn't give him much of a chance at all. And I explained to him that...indeed maybe the case he doesn't have much of a chance but also explained to him that I worked with patients that the same thing was said to them and they came back. And I also explained that he was ruining that ever happening by not participating with me. This is the one part of his hospital stay that he could directly influencing himself a chance to get back. I tried soft approach with him, and it didn't work. I tried the hard approach and literally yelled at this guy in the intensive care unit every day, and he came around and he tried to his best of his ability, in fact, he got out of intensive care unit and actually able to come down here [PT gym] to be treated…and was soon after that he was eventually overcome by his medical problems, but I explained to him even I see while again on the downfall that I was very proud of him, even though he didn't get ultimately what he wanted, but he gave a 100% of what he had and gave himself the best chance possible. [Sake1:147 - 152]

In order to get the maximum effort from the patient, Sake provided a weekly digest of his honest professional opinion on the patient's progress. With that, Sake hoped that the patient would remind himself or herself that they were both working towards the same goal.

> One of the little things I do that perhaps helps me especially from my long-term patients that I have is…the 24- year-old kid that, every Friday when we end the week, I give him a recap, a summary…from my perspectives, what happened this week, maybe did good, maybe did bad, but also where we are going the next week and what my expectations are. [Sake2: 200]

Interfering Factors for Successful Patient Outcomes

Patient's Psychosocial Status/Depression

In the following excerpt, Sake admitted that his clinical expertise and his interactive strategies could not optimally motivate this particular patient with multiple medical problems.

> I kind of referred to him as a failure of mine because…I really emptied my bag of tricks on this guy and couldn't get him consistently maximally motivated to perform. Actually I heard about this guy that he was going to be my patient even before his transplant, and I was ready for him, and I worked with him literally 6 months of hospitalization; he was literally trached three different times during his hospitalization, renal failure, had a respiratory failure, all kinds of problems, anyway, I don't feel like got to him the way I get through to the vast majority of the people. I could not reach him. I still don't know why. [Sake1:265 - 268]

Sake admitted how draining the experience was and sought his colleague's participation in the care of this gentleman.

> The last 2 months of his hospitalization I was actually pretty drained from the experience and I asked one of our other therapists to see him, explaining that if he was going to get better, he would lean on somebody with appropriate skills and communication, appropriate clinical skills and communication skills, but also a good amount of energy to help him through, and I didn't feel like I had it toward the end. [Sake1: 269]

With further probing, Sake continued to search for the main contributing factors for this unsuccessful case. He started to recognize how devastating each and every disease and dysfunction was that this patient went through.

> And I think that he got tired of fighting that. Made him challenge to deal with in terms of motivation and that major issue in the presence of all the other medical issues that surrounding it were difficult. And even devastating. [Sake1:277 - 279]

Sake didn't clearly state that the above patient's psychological status was caused by depression. However, he acknowledged that depression could be the biggest interfering factor for successful patient outcomes, and PTs might detect its signs before other healthcare practitioners.

> Knowing how much time we end up spending with the patient, how much extra communication we have with patients and families compared to other services in the hospital. A number of times we pick it [depression] up before other people, and as a matter of fact today we made a referral for psychology to come and work with our patients. And actually for our patients cases now that's the biggest interfering factor. [Sake1:304 - 306]

When asked whether he would refer the patient to psychiatrist or psychologist if Sake spotted signs of depression, he responded:

> I think establishing a good interpersonal communications. Understanding where the patient is coming from, understanding where the patient values and goals are, all that ties into things and establishing that rapport or bond.

> But if that is not good enough, even if you have a decent rapport, then we need help. [Sake1:309 - 311]

Lack of Health Care Teamwork

Sake told a story about how the PT service priority went down on the list of all the medical services for a particular patient. As soon as he realized this problem, he acted on it and solved it successfully.

> The gentleman actually was a young physician who underwent, actually heart kidney [transplant] times two. And really sick guy, a lot of problems postoperatively and literally when I went to see this guy in the ICU, if I saw him for 45 minutes, literally I would get interrupted three, four times, literally every day, from services who were involved to consult bases to see this guy. So finally, I went to the heart transplant coordinator, I was like, "You know what? I want you to tell me where on the list of priorities I stand. If you tell me low and all these people need to see him, fine. If you tell me I am in high priority, here is I want you do for me. I want you to carve out an hour that we can discuss and leave me alone. And just let me be, me and him, and see what happens." Guess what? The guy got better. Just you got all that consistency and continuity and all that distraction, and all worked out well. [Sake1:316 - 326]

Lack of PT's Clinical Knowledge

Sake's per diem work experience at a nursing home made him further appreciate the importance of a PT's basic clinical knowledge. For example, Sake's encounter with a patient with chronic obstructive pulmonary disease (COPD) gave him a rather scary picture of how her regular therapist might have been practicing.

> I remember just another story, I worked PRN in a nursing home for a while, and I remember having one lady who was an old COPD patient who was oxygen dependent, and I got the little write-up for weekend of what to do and, and I had to do some warm up exercises and then I said, "OK. Mrs. So-and-so, let's go for a stroll. Let's get up and walk." She got herself ready and she started to taking off her nasal cannula and I said, "What are you doing?" And she was like, "This is what they always do." And I was like. "This is what they always do." I was like, "OK". So I let her continue taking off the nasal cannula, and she walked, she got really dyspneic, and she walked a certain distance and we sat down. So, "OK. Let's try something different. Let's try walk on the nasal cannula [laughs]." So she walked three times as far, and she was not as nearly dyspneic, and I kind of explained to her that as your body has greater needs, therefore it's even more time to have your oxygen on, and that kind of thing just is unbelievable. So that kind of insight and understanding, despite all the patient was motivated with good relationship but, but if the therapist again doesn't have clinical skills then... [Sake1:173 - 187]

The clinical label of dementia may be powerful to the minds of clinicians. People assume that the patient would have difficulty with communication and inability to learn anything new. Sake gave a cautionary tale here: do not assume everything, even it was written by other health care professionals. Instead, test, analyze, and solve the problem in each situation.

> I love telling this story. I had...a patient, another nursing home patient, and the write-up slip was that this lady was definitely cognitively impaired, she was quite demented and…they wrote that she was a max assist for transfer. And I always get a habit of testing people's lower extremity strength when I see her the first time to get a feel. And this lady was really strong…she maybe had 4 strength throughout. OK, why does this lady 4 out of 5 strength need max assist to stand up? So again, something I learned from another therapist long time ago, he said "I'll ask them to do it before I even put my hands on them." And I looked at her mechanics and she was one of these people typically…doesn't bring their center of gravity forward. And my assistance to her was a hand on the scapula, a hand behind her head and just helped her come anterior and transfer being max assist to min. assist or contact guard wherever she needed…and again understanding her mechanics and having the clinical depth to be able to see and respond to it is so important. [Sake1:192 - 201]

Perceived Influences in Sake's Belief Formation

Definition of Successful Patient Outcome

When solicited for his own definition of successful patient outcomes, Sake responded with respect to his current acute care practice:

> I hope patients in my mind overcome the medical, surgical, things that are going on during the hospitalization, and…I help them to go home, to resume their life at home in a way where they take their initial steps back to the person where…they were before and by far I am not the last person in the chain, but I give them a chance to continue working into get back there. [B]eing able to go home for some of these people starting out in the intensive care unit is a significant, it's a significant deal. [Sake1:220 - 221]

When asked whether his definition of successful patient outcome had changed during the last 10 years, Sake described how the institutional values could influence the view of successful outcomes. "The core that keeps everybody here is being able to get patients to the point where you have your successful patient outcomes, and if you don't have that, you have nothing" [Sake2:217].

> [sighs] That's an interesting question, I think that…there are two powers at work…I always have my idea about what the successful patient outcome is, but the institution also has the idea of what the successful

> outcome is, but they also put other variables into it, such as, how many patients can you say had successful patient outcome in…given amount of time, in other words, efficiency and effectiveness put together, and I think those two points of view, sitting side-by-side, make the line a little bit blurry sometimes how well you are doing your job or how well you perceived your successful outcome to be. But I would say that…the life lessons that I referred to you earlier certainly have impacted and continually impact my perceptions about things, and that's always changing, but I think…the other big thing that may change my idea about outcome is that the side-by-side blurriness of them. [Sake2:208 - 210]

PT's Professional Experience

Sake described his encounter with another professional who taught him what it meant to be a good clinician and a professional. Genuine caring and concerns for other human beings were what he learned and passed on to new staff and students who would be willing to listen.

> I think that seeing people who repeatedly come into the hospital and finding out how well they did on the first admission, what didn't go as well, getting to know patients and patient's family members and kind of becoming part of their extended family in some situations, and reinforcing the idea that we are not treating "a patient" per se, you are treating with gentle kindness someone who maybe a part of your family. And that's also the idea passed on to students, you are not transferring a patient, you are transferring your grandma. You should take care of her. [Sake2:33 - 35]

Even before entering the physical therapy profession, Sake had the desire to help other human beings. He reminisced that many PT program candidates avoided the response such as, "I want to help people," during their college admission interviews, although at the bottom of their hearts they would have loved to do so. With his experience, he described how he could help people through the profession of physical therapy.

> I still want to help people. [B]ut I think that the better answer now that I have a little bit of experiences that I want to help people in a way that maximizes their independence, freedom, and their ability to do whatever they want to do. [Sake2:52 - 53]

Sake further described a physical therapist as a barrier remover for the patient who would build a fort surrounding him or herself. With the patient's understanding of the role of the PT, the most powerful weapons a PT could choose would be persistence, dedication, genuine care, and concern for the patient.

> [I] think people…build up barriers around themselves sometimes…that limit their ability, and I'd like to knock those barriers down if I can, I'd like to help show them the way…I'm sure many times, you've seen it yourself, even with patients early on in their acute hospital stay, "I can't

> get up," or "I can't walk," and all of a sudden, bang, two days later they are all over the place, and it's just easy for me to see that the longer the barriers in place, then the more believable they are, and so I think that things that go into successfully knocking down those barriers are patience, understanding, persistence, dedication, and genuine care and concern for your patients, which I think some people…genuinely do that, and there are a lots of people I see in the hospital who do not have that, and those are the kind of things I think that again just off top of my head. [Sake2:57]

Sake has seen the traits of barrier removers in medical doctors, surgeons, and occupational therapists.

> Two physicians in particular, one of which…knocks down the boundaries that we create for ourselves, he always wants us to do more, more, more …[smiles], and in a good way, I love this guy, and he is so good with what he does, not only as a clinician, not only as a teacher, but as a researcher too, and he definitely trust knock down the walls for us. And I would say in certain situations, too, the occupational therapy guys do the same. They certainly are the people who bring people to the level that they never thought that they would be able to get to. [Sake2:166;178-179]

With his experience, he saw his role has been changing in his worksite. "I am one of more senior people here…I perceive myself as being more mentoring kind of fashion, so in certain situations I…try to impart my ideas onto anyone who would listen" [Sake2:61]. The institutional value of efficiency might have influenced the others' view of how staff members utilize their work hours.

> I have also identified, multiple people who come through here who don't share…ideas and I think that I'm the kind of person who never get out of here on time. There are lots of people who get out on time every day and I don't agree with that, and I think that one is definitely better than the other…used to a better job if you stay here longer, and there is no way to take care of everything. And that's frustrating. [Sake2:62 - 64]

Sake expressed the joy of working with people who share the same values--genuine care and concern for the patient.

> The beauty of that at this place for me is that, over the years, I've got to know so many people in the cardiopulmonary side of things, involved in so much program development and I got to know so many people who I perceive have the same value system that I have, and we are doing cardiopulm, which is both and clinical interest for me and them, and together we form one happy group. [Sake2:105]

To the follow up question of what other disciplines he was talking about, Sake responded:

> Nurses, nurse coordinators, nurse practitioners, physicians, and they are all different units too, like…the intensive care unit, I always consider it as my second home, I've been there so often, they like me and appreciate me and alike I appreciate them, but I'm also buddies with people on the ventilator rehab unit, a lot of units all over the place, and for the longest time, that has been the best thing about working here. [Sake2:107]

In addition, Sake demonstrated his appreciation for continuous learning opportunities at his current worksite both inside and outside his department. He stated that he regularly participated in cardiology grand rounds and the cardiothoracic nursing journal club. Sake also stated that what he learned from his patients as life lessons had an impact on him, particularly the nonclinical aspect of patient care, such as genuine concern and caring. He elaborated on what types of life lessons he was referring to in the following excerpt.

> I might come here in the morning think[ing]…the kids were sick last night, I have work to do at home, the grass is long, blah, blah, blah…and I go to work with, just the guy gets done with was a 24-years kid on the BIVAD, just waiting for a heart transplant and…it's like a bucket of water that is sprayed on top of me, and I kind of realize, I don't have any problems, I'm fine, and that kind of appreciation for life kinds of gains, just throw, just rejuvenates me and throw the energy back into the life. [Sake2:133] (Artifact Pt#24)

With respect to his entry-level PT education, he described positive and negative influences to his current practice. Orthopedic education was perceived as weaker than other components that might have influenced his decision not to pursue that specialty. On the positive side, he still quoted one of the faculty's lectures and yet another faculty member who still has an impact on him today.

PT's Personal Experience

By soliciting Sake's personal experience that might have influenced his beliefs and practice, he stated that his practice of Aikido might translate into the nonphysical aspect of certain interactions between individuals.

> [I] don't know how long in martial arts philosophies, but more specifically in the last 2½ years, my experiences with Aikido. And all the ideas about blending that redirect one's energy in the martial arts sense, you redirect attacker's energy in a way that subdues them but doesn't necessarily do the permanent damage to them…That may translate into a non-martial arts sense with somebody who is confronting you or being aggressive towards you, and you try to redirect their energy in a way that both people come out OK. And those kinds of ideas and philosophies have influenced me, not only at work but in my life for the last 2½ years. [Sake2:141 - 144]

Sake's child-rearing experience reset his priorities in his life. The most important things that Sake previously perceived and the part of his identity at work--the cardiopulmonary

PT issues and teaching students--became secondary when they were put together with his family.

> I still come in, take really good care of my patients, but I can't imagine my life without my wife and my kids this time, and they are the most important thing in my life. [T]hat has influenced my practice in that it forces me to be a little bit more can say concise with what I'm doing here. When I first took students as a CI, I remember telling the first couple students, "I don't care how long you take with your patient, whenever, I don't care, we can get out of here 6 o'clock, that's fine. You just take good care of your patients." I can't do that any more and, it, again it's just on another level, makes me appreciate health and I guess that's about it. [Sake2:260 - 264]

As a young child, Sake's father passed away from inoperative brain cancer. He had seen his father's progressive disabilities and decline.

Factor Sort Result

Sake listed 6 factors that facilitate successful patient outcomes. When asked to perform the same task for interfering factors, he stated that all were the same as the facilitating factors. Then he added interfering factors # 7 through #9. Except for the *interpersonal communication*, Sake reranked the rest of the factors when asked to rank them.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Interpersonal communication*	Same and in the opposite dimension of 1-6 on the left
2	*Consideration of patient's needs, values, & goals?*	
3	*Understanding of clinical problem*	
4	*Pt motivation*	
5	*Appropriate clinical skills to treat given problem*	
6	*Pt understanding regarding role of PT*	
		7. *↓ Cognition*
		8. *Depression*
		9. *PT ↓ on the list of priorities*

Potential Researcher Bias

Sake, as well as others interviewees, gave the interviewer the impression that his specialty area, the super-complex cardiac intensive acute care, has several unique characteristics when they were compared to other acute care services, such as trauma or orthopedics. The length of stay and associated time pressure for discharge by other members of the team appeared less of an issue. In the case of heart transplantation, it would obviously be impossible to determine the pretransplant period. Although the interviewer had worked within a cardiac care team of an acute care setting, her lack of knowledge and experience with patients who would go through cardiac transplantation was revealed through the interview process.

It has been shown that male interviewees have 10% -20% shorter responses than females. I carried that bias to the first interview, but immediately found that didn't apply to Sake. His response was very articulated and full of vivid examples (Reflective memo 5/20/03). Similar to other experienced PTs, there was a wave of quiet confidence and pride in what he does as a physical therapist that was heard through his voice (Reflective memo 5/20/03 & 6/9/03).

Conclusion

Sake believed that forming a good therapeutic relationship, the PT's clinical knowledge and patient motivation are the most important facilitating factors for successful patient outcomes. A good therapeutic relationship would start with the PT's willingness to understand the patient, and in return, the PT's role must be understood fully by the patient. Sake selected the most appropriate interactive strategies based on his understanding of the patient. By demonstrating the PT's clinical knowledge to the patient, the PT would gain confidence that would further facilitate the therapeutic relationship, patient motivation, and the overall outcome.

In addition to the three factors above, Sake added the patient's psychosocial status/depression and the lack of health care teamwork to the factors interfering with successful patient outcomes.

Both his professional and personal experience influenced Sake's belief formation. Among his various professional experiences, one of his colleagues and his patients appeared to be most influential. Among his personal experience, his practice of martial arts might have contributed to his strategies to deal with different individuals. But most importantly, being a father of two children, and his early experience with the loss of his father, appeared to have more impact on Sake's values--genuine care and concern for his patients.

Interviewee Summary
Anago: "The patient can really get back to doing activities that give them a good quality of life. That means their idea of what good quality of life is, and not mine."

Interview Dates:	5/5/03	8/13/03
Interview Time:	2:00 – 3:00 pm	2:05 – 3:15 pm
Interview Location:	Anago's office at her clinical practice site	

Interviewee Characteristics

Anago is in her early 40s and currently works as a Chief Physical Therapist at a large Trauma Level I teaching hospital with a total of 18 years of clinical experience. Throughout her career, her main area of practice has been in an adult acute care hospital setting. She received her bachelor's degree as an entry-level PT degree and subsequently earned her advanced master's degree in physical therapy. She is currently enrolled in a local transitional Doctor of Physical Therapy (t-DPT) program. She has taught cardiopulmonary physical therapy classes at various academic institutions (Resume 8/13/03).

Anago has never sustained a severe injury or illness that required medical care including physical therapy, nor has she had a caregiver experience with a family member's illness. Other demographic data indicate that she is White, married, has one child, and her religion is classified as Protestant (Demo form 8/13/03).

Coding Characteristics

Among 17 axial codes, 13 axial codes were used to code Anago's first interview, while the second interview was coded with 16 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, a set of patient care notes, Anago's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

There were three prominent concepts that Anago illuminated throughout her interviews. They were patient motivation, patient's learning ability, and therapeutic relationship. For each factor, Anago's quotes are used to illustrate its meaning and application in her actual patient care. In addition, health care teamwork, family support, and access to healthcare were addressed with negative examples. Thus these three factors will be discussed under the interfering factors section.

In her narrative of her most memorable successful case, Anago described her patient as a lawyer in his 30s with muscular dystrophy. A heart transplant team consulted Anago on the patient's rehabilitation potential in order to determine his surgical candidacy. Anago recommended that he could successfully rehabilitate. In a few weeks, the patient was hospitalized and received his new heart. His postoperative phase was challenging because his legs were very weak from muscular dystrophy, and he was not able to use his arms due to sternal precautions. Anago reminisced about her joy in seeing him regain his life beyond everyone's expectations in the following excerpt.

> When I saw him pre-op, I thought well, I'd give him a chance. I never dreamed, up until I saw him at a mall at Christmas time, taking his kids to see a Santa Claus after the surgery. So just to see how far someone with very significant disability could go. Even with such major life threatening surgery and somebody could train post-op and come back and really do well. [Anago1:56 - 59]

Patient Motivation

When asked what contributed most to the success of the above case, Anago immediately responded that it was patient motivation and described what she meant by it.

> Motivation in a way that is really plan ahead and identifying very specific activities. That was specific to his needs, not just everybody has to go up down the stairs or transfer stand-pivot, but you need to get on and off from this wheelchair to this table at this height. And very specific, we practiced with the cane he used, not any cane we had. We changed the angle on the bar to simulate what he had it at his house. That paying attention to the details, I think really made it a lot of fun and got the good outcome. I think if we didn't get his details and specifics that we had, I think we could have gotten much more struggled. [Anago1:63 - 68]

Anago explained how this patient's long term disability, a diminished muscle power, conditioned him to be a master planner for improving his environment to gain his maximum advantage.

> He knew from all his past disability, and he really had to plan ahead, and plan out everything he did. So he was very good at really thinking ahead. I mean he was obsessed on the angle of the grab bar in his bathroom. If it wasn't exactly the angle he was used to…he would want it fixed. [I]t drove you crazy but it really that attention to detail made all the difference in his progress. And he was a lot of fun to work with. [Anago1:31 - 36]

This patient demonstrated his motivation from preoperative days throughout his entire hospital stay. Anago stated that patient motivation made a difference in postoperative rehabilitation outcomes because not participating in physical activities at the bedside or in the gym could lead to significant muscle atrophy, particularly with the pre-existing condition of muscular dystrophy. She also sensed this patient's need to show his motivation to caregivers in order to counter the potential prejudice against his disability. "I think half of, he was convincing us I can do more than you think" [Anago1:88].

When Anago was asked how she would assess patient motivation, she described how she would perceive her patient's motivation through conversation or through observation. "I think it comes through a lot in a conversation. I think, maybe how willing they are to try something different…Sometimes it just the way they talk through, problem solve, things that …are coming up against" [Anago1:183 - 184;187].

A sign of patient motivation could be observable from day one. Anago believed that it would be a good predictor for rehabilitation potential despite all the medical complications that the patient might have. “[A] lot of the time, I see them right on the first day. Oh they are going to, they are messed but they are going to be fine” [Anago1:191 - 192].

Lack of motivation and the existence of depression were not completely distinct when Anago was elaborating on what she meant by lack of motivation.

> He is an old stroke, came in for heart surgery and his son was just recently…murdered, and so he was very depressed and he understands that he needs to be out of bed, and he verbalizes understanding all the things he ought to do, but he is just too depressed to put any effort he feels tired, he is sad, he just wants to lay there not be bothered. And I can talk and talk and talk, because he agrees with everything I say, but he’s not putting the effort into doing it. [Anago1:441 - 442]

Therapeutic Relationship

When Anago was asked to elaborate on what she meant by *motivation* during her factor sort activity, she initially described motivation as a patient’s ability to meet goals. However the whole response, as the following, implied that it should be built upon a mutual goal set by the collaboration between the patient and the physical therapist.

> I think that [motivation] is the patient’s ability to buy in with the goals you set up and he set up, and he set some goals for himself and coordinated with you to work towards the goals you mutually set up. Sometimes…your patient may say, “Yeah, that sounds good. Yeah, I agree with you.” But they don’t want to do it. And it’s somebody that really wants to meet the goals. [Anago1:160 - 164]

When Anago elaborated on what she meant by *good communication with patients to incorporate their goals*, she emphasized the importance of understanding the patient’s home context and his or her values in order for both the patient and the therapist collaboratively to create and work towards a mutual goal.

> [I]t’s understanding where the patient is coming from and what’s important for them. If you are trying to get them to do stairs and they are in ranch house…they are not going to buy into what you are going to do. They are not going to get them to go on with what you got planned. So you really need to talk with them and find out what’s important to them to get out of here what they need to do once they leave the hospital. And focus your plan of care in that direction. [Anago1:197 - 201]

Patient’s Learning/Problem Solving Abilities

When Anago attempted to elaborate on what she meant by *ability to learn* during her factor sort activity, she started to realize that it could be combined with problem solving abilities. “But for patients who really have to change their way of doing things they have to have somebody to have the cognitive ability goes along with the problem solving aspect of it" [Anago1:225 - 225].

Anago gave the following example to illustrate what she meant by problem solving abilities.

> Say somebody had a knee replacement and you spend all this time going over transfers they do, which is fine down here [in the PT gym]. They go up to their room, they get up out the bed, walk to the bathroom come back, and the bed is a little high, so they just have trouble swinging that knee back in. If someone who is going to problem solve enough to say, "Let me go get a reacher…to swing my leg out," or "I'm going to sit here and wait for the nurse for half an hour to come and help me into bed." [Anago1:236 - 238]
>
> Are they going to incorporate what we showed them, use it to problem solve in a different situation to get them out of the gym, or they are only able to repeat exactly what we showed them in this environment which won't carry over so well. [Anago1:242]

When solicited, Anago provided the following strategies to improve a patient's problem solving abilities.

> I think with the learning, you try to work with your patient that's which way they work best. If somebody needs a visual demonstration, then they actually have to walk through it and repeat it over and over…, so you try to assess how they learn best. [Anago1:251 - 252]
>
> What you try to do is problem solve and once you get it down, "OK. let's modify the situation now. Can you figure out how to do it on your own?" And challenge them down here as many different situations as you can before they leave. [Anago1:255 - 258]

Anago gave an example of a possible long time alcohol abuser with memory deficits.

> Just an old drunk, who came in because he kept falling down, and we had to do safety check out. And his brain is pickled, his balance is gone and he just doesn't at this point, he is just cognitively not all there. He couldn't even rank his pain 1 to 10 because he had arthritis as well, and he just couldn't even understand that concept. Trying to give him an advice isn't going to work because he is not going to remember to use it. [Anago1:451 - 453;455]

Interfering Factors for Successful Patient Outcomes

Anago had seven items listed as interfering factors during the factor sort. However the most significant factors were patient medical status, a lack of health care teamwork, health care access, and family support. The lack of motivation was described in the previous section.

Medical Status

In her narrative of her unsuccessful case, Anago described her patient as a morbidly obese (over 400 pounds) woman in her 50s with a history of colon cancer and metastasis to her lungs. After her colostomy, the patient was readmitted to the hospital for a round of chemotherapy. Unfortunately, she lost her ability to walk due to some type of chemotherapy-induced myopathy. Anago worked with her daily for about 2 weeks. Just about the time she progressed enough to receive an approval for transfer to a skilled nursing facility , she had a sudden respiratory failure and returned to the intensive care unit. Anago classified this case as unsuccessful because she could not foresee the patient being able to return home to assume a caretaker role for her grand-children, while this patient's whole goal was to get home.

Lack of Health Care Teamwork

In the above unsuccessful case, Anago was sensitive to the potential health care professionals' bias toward this patient's obesity. This negative bias might have affected the quality of care this patient received during her hospitalization, despite her good motivation (Artifact Pt #15).

> [I] think there was a lot of bias with other hospital workers because of her size. This is a patient, again she was motivated a lot, as much as that of the lawyer [in the most memorable successful case] who was just over the top. [S]he really wanted to get better. She was willing to come down as long as she wasn't feeling under the weather. And she was in a lot of pain, she had arthritis on top of all this. So she could work within her limit, but you are just constantly fighting: transportation didn't want to move her, nursing didn't want to trying help her out. They even didn't give her the bedpan. They just tell her to go in the bed and promise to clean her up later and not come for hours. So we are battling all sort of skin care… [Anago1:390 - 398]

Anago gained insights into the importance of team coordination through her administrative role as well as her participation in various meetings and committees at her current facility.

> There are so many times where they are sent home and loose ends aren't wrapped up and a week later they are back because they just weren't able to make on their own and make them back in a hospital. So really making sure that the doctor knows the functional level when they sent them home, and the social worker's gotten the message of what equipment needed, what follow-up services are needed, and insurance has approved it, all that coordination. It seems like it's a real effort to make sure that all those pieces are wrapped up and connected. That continuum of care doesn't always come full circle, and they are sent home with loose ends dangling, and they have trouble. [Anago1:264 - 267]

With that insight, Anago's patient care notes had numerous evidence of coordination efforts among various team members. For instance, Anago capitalize the word "UNSAFE," to emphasize the need for placement immediately upon her initial physical therapy evaluation. A social worker documented her appreciation for Anago's input and started searching for skilled nursing facilities (Artifact Pt #15).

The nursing shortage could be partly blamed for the disintegration of coordinated patient care. Anago described how the nursing shortage might have affected the nurses' priorities and the signs of their patients who were not receiving optimal care.

> You just see a lot of nursing just won't take the time to turn the patient, to transfer the patient, to get them out of bed. I think we got disproportionate number of bed sores that come up, pneumonia, the hospital-acquired complications left and right, because I don't think they are getting the best care they could. I think a lot of it's nursing. [Anago1:465 - 467]
>
> There are days, people never get turned, skin care doesn't get done, sometimes people are complaining they don't get bathed or bed doesn't get changed. It's sad but it really leads to a lot of complications I have seen. 17 years old have Grade III decub[itus ulcer], it's sad. [Anago1:473 - 475]

Lack of Access to Health Care

Without adequate insurance coverage, a patient would be denied access to acute inpatient rehabilitation services or follow up outpatient services. Anago gave an example of a patient whose fall risk would easily be eliminated if his insurance company would only have covered a simple intervention, a splint for his foot drop.

> It was a MS [multiple sclerosis] patient. He fell because they wouldn't buy him a foot splint, and crack his rib, got pneumothorax, and we were trying to get a foot drop splint, and they are like that's not what he was admitted for. And I was like, "It's going to happen again, how many broken bones?" And they were like, "Oh well, that is not what he was admitted for this time so he can't have it." And they just go around and around. [Anago1:289 - 293]

Anago's frustration was visible through the following statement. "Yeah, you are constantly arguing. Maybe it's just we look at case managers, but case by case, so you are arguing every day, keep altering the next step" [Anago1:295 - 296].

Lack of Family Support

Anago would predict a poor outcome when the patient would require some assistance at home but no one would be available.

> [I]f they don't have any kind of family support or somebody there, if the patient lives alone and has no one, you are going to be stuck, you are not going to get good outcome unless they are independent and not everyone will be. [Anago1:284]

On the other hand, a nursing home placement could be a better option for some individuals, despite the existence of their own family.

> [Family members] are abusive, negligent, or there are cases where they just want you to live with them so they can get their social security check. We've seen a lot of that. So there are times where nursing home is a better option, patients are happier with than returning with the family. [Anago1:510 - 512]

Anago illustrated the reality of urban society contrasting to a suburban community, in terms of the socioeconomic status and the individual's living condition.

> [W]e have a lot of people [who] don't have homes or they are living in boarding home that they won't take them back, they are homeless, they have a house but heat turned off, there are all sort of things going on. So just having inappropriate place to send them, so you might not run into this in suburbs where everybody has a nice place to live but here you can't take that for granted. A lot of people won't tell you, they make up all sort of stories, "I'm living with my son." "I'm doing this, and I'm doing that." And you find out that no, they came off the street. And they don't have place to go. [Anago1:300 - 305]

Perceived Contributing Factors for Anago's Belief Formation

Definition of Successful Patient Outcome

Anago defined a successful patient outcome in her current clinical context, an acute care facility. "I think the patient can really get back to doing activities that give them a good quality of life. That means their idea of what good quality of life is, and not mine" [Anago1:332 - 333].

When asked whether Anago's definition of successful patient outcome had changed over the past 18 years, Anago described the change from an absolute and concrete list of outcomes for all of her patients to more relative and more individualized outcomes in the following response.

> [W]hen you start out I think I just had a small check list of can you transfer, can you walk, can you do the stairs, that I thought well if every patient can do this, then they are OK. And just the more you work with people the more you see, each one has their own specific needs of what's important to them, and you trying to get them what they need to do. [Anago1:339 - 341]

When asked how differently Anago would have handled her patients 18 years earlier, she used her morbidly obese woman as an example to illustrate how limited her approach was back then. She was more flexible and able to improvise different patient care strategies now for the same situation.

> I think, it would have been a lot of, "Oh my god, where do I start?" In terms of just trying to get her up and mobile. And as a new grad, I would

> never think of telling two transporters to drag the entire bed down to the gym to put it between the parallel bars to stand somebody up, I would never thought of that then, now it's just like, whatever works I'll do, and I'm probably…knock myself up more trying to fix all these other things that are out of my realm... [Anago2:407 - 409]

In the last part of the previous quote, Anago implied that her awareness of her practice boundaries wasn't as clear as it is today. She continued: "Social issues and things like that, whereas now I'm like I got to leave that to the expert" [Anago2: 411].

Anago could not recall any specific incident or encounter that triggered her belief change, but she pointed out that the gradual reimbursement restrictions to the health care providers had heightened the PT's needs for advocacy for the patient. "I think it's been a gradual change. I think over the years, change in insurance, I think, we have to advocate harder now than we did before to make sure that patients get what they need" [Anago1:347 - 348].

PT's Professional Experience

Anago showed her appreciation for her professors at her entry-level PT program where they had concurrently been practicing and sharing their personal experiences with students in class. Despite Anago's miserable experience being forced by her instructor to perform airway suction during the cardiopulmonary course, she chose an acute care hospital with a significant cardiopulmonary case load. One of the physical therapy staff members at her final clinical internship site gave her advice prior to her job search, which Anago reminisced about: "Go for the child that says Disneyland" [Anago2:26].

> And I did. You can't always judge the job by the salary, or the type of work you are doing, or the way the institution looks, or all those very obvious things, you got to go in, talk to the staff and really just get the feeling for the interactions with each other, patients, the doctors, and there is one it's going to give you that warm fuzzy feeling, like, this is a nice place to be. And I went in, and, this is back in the early 80s when I called up nine places, and…they had openings, so I interviewed at all nine. [Anago2:28 - 30]

Anago continued to describe her appreciation for her first work experience. It was a family-like environment where she was mentored and nurtured professionally by the experienced therapists.

> The Chief and the Assistant Chief… both of them had been out at least, probably 15 years by then, who were very experienced, great educators, great administrators, and just really good. And they were like moms, they adopted all of us young, and they rented us their cars to take on dates [laughs]. I mean it was really a family environment. [Anago2:57 - 59]

One of Anago's early patient encounters taught her the need for advocacy for her patients and the need to respect patient values.

> [Y]ou really need to watch that and also respect what the patient says, in terms of they do want this, or they don't want that and not just assume that we can just go charging ahead with the plans we got in our mind. [Anago2:14]

However, Anago introduced her staff at her current facility to a more utilitarian view as an administrator and cautioned them not to go overboard with patient advocacy, because nice care for one patient may cost necessary care for other patients. "I think I have to look at the bottom line more than they [staff] do some times, and really step back" [Anago2:114]. "We need to do it necessary and if you have time, do nice, and I think I've got to…remind people that sometimes" [Anago2:118].

> [N]ice to be a patient's advocate, to go the extra miles, but you also need to advocate for the patients that are still waiting to be picked up...I sound like the wet blanket for the bunch and you all have to do this, but [laughs]. [Anago2:120 - 121]

As it was described earlier, Anago's current practice setting serves an urban community with predominantly lower than average socioeconomic status. A lack of patient financial resources made Anago not assume anything, such as whether or not a patient can get to an outpatient service before arranging anything.

> Here a lot of times, they have no car. House doesn't have heat, things that you just take for granted in, more suburban type of environment. You can't take for granted here, you really have to stop and ask. If I send you home until you need outpatient therapy, do you have any way in the world of getting there, before you just go and do it, so and also just the lack of insurance the people have here… there are some that we have to just discharge and we know…there is not going to be any follow up, and that outcome is not going to be as good as it would be for somebody who could follow through the personal care after they left you. [Anago2:312 - 315]

Working with patients with inadequate resources made her to be more flexible and gave Anago the opportunity to improvise for a unique patient situation.

> I think you learn to think outside the box a little bit more working here, come up with the alternatives at other hospital, they might say, "Well, stay an extra day, work on getting independent with those crutches before we send you home." And here, there is no insurance, they are throwing them out one way or the other, so let's look at alternatives, teach them how to bump up the stairs, somebody can guard you, we teach guarding technique, it might not be perfect, but it would be safe and so I think, just my bias, but I think we are little bit better learning how to improvise and make do with what we are given… [Anago2:331 - 332]

Some of the continuing education courses that Anago attended gave her more aggressive, and potentially more risky treatment ideas for her patients who are dependent on ventilators. She valued clinicians teaching from their experience in conjunction with the research findings, rather than professional lecturers who do not possess clinical work experience with patients on the daily basis.

> [I] think this just appealed to my, "I like to learn from the clinicians," thing because [that facility] tends to be one of the trend setters for the country and just going down and seeing how they do it. They have a very unorthodox approach that, and just much more aggressive and risk taking, and forward thinking than what I think, the most regular hospitals I used to, and take all the patients that are on the vent[ilator] and put them in prone and just position around the tubings, it's OK, and we came back and we tried, and a nurse walked into the ICU and…there was another cardiac course…Managing Cardiopulmonary Dysfunction at [a facility name]. And, like we just walked into this course and the instructors were who's who of Cardiopulmonary Section of the APTA [American Physical Therapy Association] teaching this course, and it was just wonderful, they really sat down and shared everything they had. [Anago2:246 - 248]

Anago stated that she enjoyed her formal clinical research experience that she had gained through her advanced master's degree education. She also described how useful some of the courses on teaching and learning were. She applied those course materials to her staff development, patient education, and her personal life. Anago recalled that she overloaded her students with information when she first taught an academic course and learned to do the following. "But really make sure you highlight, "These are the important things you got to know, and then if you want more details, I can give you more," but make sure they got the take home message" [Anago2:239].

PT's Personal Experience

Anago stated that her current facility had started to focus on patient satisfaction, which appeared to be on the backburner of many clinicians up to that point.

> There is a whole hospital kick line right now about patient satisfaction. Hiring consultants to educate us and all that stuff. "Result sharing program!" Yeah, we got bonus on first time ever [laughs], hitting our target on patient satisfaction. But it really made us step back, I think we always looked at outcomes as those PT measured things, did their range improved, did their strength improved, did they walk farther, longer, faster, all that, and part of this was step back and were they satisfied, were they happy, did they feel respected? And in doing that, I was just talking to my mom who's been here as a patient. [Anago2:423 - 424;427 - 430]

Anago recalled how her mother remembered a small negative experience over a mostly positive experience during her hospitalization for her elective knee surgery.

> She could really go on and on about…a couple of negatives that weren't any long term thing, just, I had negative experience here for one hour, and I had negative experience here for about one hour, but she didn't forget about those at all. [Anago2:433]
>
> Overall, she was very happy with the experience, the outcome… she always has to include that "but," there was this and this she didn't like. And they make an impression, all those little things really do go into it. So you got to watch just about every word…everything, how long a patient sit and wait for the transporter to take them back to their room. [Anago2:437 - 439]

Factor Sort Result

While ranking the facilitating factors in the order of the most important to the least, Anago changed the order of all the factors except for *motivation*. Similarly, she shuffled her interfering factors while ranking them except for a *lack of motivation*, which remained at the top.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Motivation*	*Lack of motivation*
2	*Good communication with pt to incorporate their goals*	*Inability to learn & problem solve*
3	*Ability to learn*	*Lack of adequate coordination of care or inadequate delivery of care leading to complications*
4	*Ability to problem solve*	*Complications due to other medical issues*
5	*Coordinated approach to pt care & D/C planning by hosp. staff*	*Poor home situation*
6	*Family support*	*Poor family support*
7	*Adequate insurance overage (for follow up care)*	*Lack of adequate insurance for follow up care*
8	*Disposition (home situation)*	

Potential Researcher Bias

The night of Anago's first interview, the interviewer finally remembered the patient Anago had described in her most memorable successful case. The interviewer provided the outpatient cardiac rehabilitation service to the same individual at a suburban hospital. I might have triangulated what Anago told about him with my memory as well.

With my administrative work experience, I could anticipate some of her responses, particularly with respect to the health care system's issues, such as nursing shortages or reimbursement restrictions. However, Anago gave more insights into the site-specific issues that I wasn't familiar with.

I might have missed the opportunity to give Anago follow up questions regarding her personal experience, such as participating in Girl Scout activities.

Conclusion

Anago believed that patient motivation, a patient’s learning ability, and therapeutic relationship were facilitating factors for successful patient outcomes. Her most memorable successful case contained all three factors in it.

Anago believed that the most significant interfering factors were patient medical status, a lack of healthcare teamwork, healthcare access, and family support. Anago illustrated the need for patient advocacy, persistence, and flexibility to overcome those obstacles in various situations.

Anago’s clinical experience gave her the most significant influence on her belief changes during her career. Her clinical experiences she described were her direct patient encounters, her participation in the coordinated team effort, and her administrative responsibilities at work. Anago did not elaborate on her personal experience other than her mother’s hospitalization experience which taught her to be vigilant for patient satisfaction.

Interviewee Summary
Tako: "I approach accomplishing things for other people. It's all about them (patients)"

Interview Dates:	6/11/03	7/9/03
Interview Time:	4:00 – 5:30 pm	5:00 – 6:00 pm
Interview Location:	Tako's office and Chief PT's office at her clinical practice site	

Interviewee Characteristics

Tako is in her late 40s and currently works as a per diem physical therapist at a large Trauma Level I teaching hospital with a total of 27 years of clinical experience. Throughout her career, her main area of practice has been in adult acute-care hospital settings. Her current primary work is at an academic institution where she teaches clinical as well as management courses for DPT students. She received her bachelor's degree as an entry-level PT degree and subsequently earned her master's degree in exercise physiology. She states the possibility of her pursuing a further academic degree in the future. She has extensive professional experience as a leader, a teacher, and an administrator, both at the regional and at the national level (Resume 6/6/03). She does not have significant personal injury experience. However she has had experiences as a caregiver for her family members' illnesses. Other demographic data indicate that she is White, not married, and her religion is classified as Catholic (Demo form 6/11/03). She demonstrates her exquisite talent in writing poems, something she has done since she was in high school (Artifact Poems 6/6/03). The total number of text units for both interviews is 1,331, the highest among the 13 participants.

Coding Characteristics

Among 17 axial codes, both of Tako's interviews were coded with 15 axial codes. Data triangulation was performed utilizing two in-depth interviews, artifacts, two patient care notes, Tako's resume, the demographic data form, field notes, and reflective memos. If not specifically indicated, the following concepts were at least triangulated utilizing two interviews, field notes, and the reflective memo.

Facilitating Factors for Successful Patient Outcomes

As important facilitating factors for successful patient outcomes, three concepts emerged from her two interviews. They were clinical knowledge, the therapeutic relationship, and her practice philosophy--accomplish for the patient, not for the therapist.

Clinical Knowledge

Tako introduced a case of an 86-year-old woman who was admitted with a gastrointestinal bleed, unable to receive an anticoagulation for her DVT (deep vein thrombosis) due to the bleed. She then had a massive heart attack, and her central line in her groin nicked her femoral artery, which resulted in further bleeding in her thigh. Tako illustrated the most important facilitating factor, k*nowledge of the etiology, pathology and prognosis for recovery given their impairments/functional limitations* (Factor sort #1) in the following quote. She demonstrated her ability to project a precise rehabilitation potential by distinguishing a reversible from an irreversible pathology and impairment.

> And what I knew is that nothing irreversible that had happened to her from the musculoskeletal, from neurologic(al), cardiovascular, pulmonary standpoint, or from the integumentary standpoint, so I knew her rehabilitation potential was good and that with rehab she could return home and regain her prior level of function. Versus a woman who has this parasagital lesion that is cavitationist that is not going to recover and I know that…she is going to need a MAFO [molded ankle foot orthosis], so the sooner I can make her move based on her pathology to get her what she needs, the sooner she is getting where she's going. That's my job. OK…that's my role to play in the management of those people, to use my ability to interpret between the two worlds. [Tako1: 313 - 316]

In her narrative of her most memorable successful case, Tako described her patient as a woman in her twenties who was an immigrant from Latin America. She had a 6-year-old son and was living in a very supportive Spanish-speaking community. She had a mono paresis from a parasagital lesion and was later diagnosed as HIV positive (Artifact Pt #12). Tako stated that it took a lot of coordination and wasn't easy, but it was successful because the patient's own goal, to go home to take care of her son, became a realistic goal, sending her to the rehabilitation floor. It was successful also because this patient was able to receive medical assistance, a foot brace, and a medical regimen that was not affordable by her own resources. Functionally, she was able to walk with a molded ankle foot orthosis (MAFO) with or without a cane, upon discharging from the acute care hospital to the inpatient rehabilitation service.

Therapeutic Relationship

Within the context of the above most successful case, Tako and her patient's mutual trust and human connection transcended the language barrier. While comparing physical therapists' and other health care professionals' therapeutic relationship patterns with their patients, Tako characterized the unique therapeutic relationship opportunity that physical therapists possessed in their practice culture.

> So I do think that there is a unique opportunity because… if you think about the type of relationship you have to establish for someone so that they trust you to touch them. They got to feel trust coming out of the hands, and… you cannot say a word. And I think how this woman and I got not say a word. And how you look in the eyes, how you cry with them, how you touch them. They know that they can trust you. And I think it's different. And I think it's envious for some… [Tako1:496 - 502]

Tako illustrated a challenging moment in which she was trying to *establish "human" relationship that is based on compassion and professionalism* (Factor sort #2). It was an art of balancing between push and pull.

> I think her emotional state was a challenge because she was devastated with her new HIV diagnosis…And trying to balance being compassionate and helping her move forward. And…I think we all of us have really good

> days and some others have bad days. So it was a challenge in that…it wasn't a hardship but it was a challenge knowing…when to push or when to listen, or just be quiet, let her do what she needed to do. [Tako1: 139 - 142]

On the day of this patient's new diagnosis of HIV, most of the team members, including nurses, a social worker, a neurologist, and others, demonstrated their c*ourage to pay attention to emotional and spiritual needs* regarding adjusting to the new diagnosis (Factor sort #4). Although her interactive strategies, such as showing empathy through touch, were not documented, Tako wrote her full awareness of her patient's emotional status in the patient care note. *"S: crying & stating she is worried about her son. Very upset this P.M." (Artifact Pt#12).* On the day after, her physician's order reads: *"Close supervision. Level I (one-to-one arm's length) for suicidal ideation" (Artifact Pt#12).* Tako described the immediate and immense benefit of her team's coordinated effort to send the patient to the bilingual floor where all the nurses could speak her mother tongue, Spanish.

> You would have thought she was a new woman when she got down there. She was off antidepressant, and that she could talk to people and they could talk to her and they could understand what was going on, and she was immediately better. It just drove home to me how isolating it can be. And you are someone who English is not your primary language and I'm sure you can relate to that until you learn the language and oh, it's just amazing, just amazing. [S]he was like…the light went off. Just her smile came back. Her eyes are even clear. She participated more. She wasn't, she didn't cry as much. I think it was because she could cry with someone who understood her, and she didn't have to cry alone. [Tako1: 70 - 73;75 - 80]

From this and other encounters with Spanish speaking clients, Tako stated that she had a sense of duty to learn more conversational Spanish if she would decide to serve this community.

PT's Philosophical Approach to Patient Care

Tako provided several philosophical approaches to patient care. The most dominant philosophy presented during the two interviews was accomplishing things for the patient, not for oneself. With respect to her most memorable case, she stated:

> I don't think what I did with this individual or the way that I approached this is different that I approach caring for or accomplishing things for other people. By that I mean, it's all about them. It has to be about them. I think when you are in service, it has to be about the person that you are serving. And it sounds weird and I can say this to you and I know it's going to be on tape and I might regret it but physical therapy to me is my ministry, it's my vocation, and it's a ministry in taking care of people. And so it's important to take care of the person, not take care of the

> diagnosis or the impairment that the person has to have. Take care of them. [Tako1:84 - 90]

As a counter example, Tako described one of the self-centered and egoistic health care professionals in her most successful case. He did not appear to possess a trace of empathy, the ability to feel and act based on the patient's own experience. Tako's frustration was palpable in the following excerpt.

> I think the challenge was the neurology resident. [laughs] [H]e was really very nice and more trying to get him to understand how devastating this diagnosis was, and it wasn't just me but the neurologist who was very…good said, "She needs to get to this bilingual unit…this is a psychologic emerg(ency)." And he was, like, "Why?" She just got the diagnosis of HIV, and she has 6- year-old son, and he was like, "But what is the crisis?" And you felt like just grab him and shake him till his teeth rattle. "It's not about you, honey. It's about this poor woman, she is in her 20s." [Tako1: 143, 145 -150]

As she referred to Stephen Covey's book, Tako described three stages of professional maturity: dependence, independence, and interdependence. She was content in her interdependence stage in which she had full awareness of her limitations, and she desired to accomplish things for the patient with the rest of the team.

Interfering Factors for Successful Patient Outcomes

The factors that Tako addressed were a patient's lack of access to appropriate care, lack of family/social support, psychological impairment, anger, health care professional's prejudice, and the limitations in the therapist's knowledge. Among them, three major concepts were illuminated throughout the two interviews. They were lack of family support, health care professional's prejudice, and the limitations in the therapist's knowledge. With respect to health care access issues, throughout her various practice settings, Tako had encountered nonoptimum disposition, such as patients being discharged to the street because of their homelessness, or patients who gave up their medication due to their socioeconomic hardships. Regarding anger, Tako stated that it could be "a powerful motivator or demotivator" depending on the situation. She provided how she would handle her patient who was angry through listening, understanding the cause of the anger, and solving the main problems that caused such a powerful emotion.

Lack of Family/Social Support

Tako believed that seeing someone who cared about the patient in the patient room was an excellent predictor for good outcome.

> [O]ne of the best predictors of good outcome is when I walk into a room and there is a family member or there is a friend…this lady just had big old stroke and she had like this Ya-Ya-sisterhood looking there and I'm thinking she is going to be fine because they are going to make sure she is

> fine. A woman in the next bed who was 40 years younger is going to a nursing home because she had none. [Tako1:741 - 742]

As an unsuccessful case, Tako described a patient with left trimalleolar ankle fracture due to a fall. She was admitted to the emergency department where Tako was consulted by a trauma team to determine the feasibility of discharging her home. Tako recommended an immediate admission to the hospital due to the patient's current mobility and home safety concerns. She weighed over 300 pounds with right hemiparesis from a previous cerebrovascular accident (CVA), nonweight bearing on the left lower extremity, and was the primary caretaker for her grandson in a fourth floor walk-up apartment without any help during the day. Based on Tako's input, the patient received an open reduction internal fixation (ORIF) on the following day followed by an inpatient rehabilitation service (Artifact Pt #13). Tako gave her recommendation for an immediate hospitalization; she also told this patient that she could refuse it. Tako categorized this case as an unsuccessful case because her hospitalization and surgery went against her desire to go home from the emergency room to avoid disrupting the care of her grandson and her business at home.

> She was insisting of going home. And it was interesting because she wanted to be there for her grandson to make sure he stays out of trouble. And he was very devoted to her and she couldn't go home. And it was because she was on the fourth floor walk-up. And they had to look for some type of placement for her while her ankle is healing because she will not be able to nonweight bear, just by virtue of her other impairments. And this is devastating for her. She is going to fight until there is no breath left in her lungs. This is really quite a blow for her, so it's a safe outcome, it's a social placement, and it's a terrible failure for her. And I only hope and I think that she is a very strong-willed woman and just one of those, you can knock her down a lot but you can't keep her down and I just hope that doesn't--I think she will be OK, but it's not what she wants. That's not what she wants. [Tako1: 578 - 587]

This patient's walk-up apartment brought Tako a vivid memory of a previous patient experience. It triggered in her an immense sense of fear of discharging the patient with her limited mobility.

> And my biggest fear, and I had a patient…he was playing Russian Roulette, who is a Vietnam Veteran and…he was this gorgeous tall African American man that was just youth arrogant and his girlfriend was a model…the bullet literally traversed inside the cariberium and wiped out his motor strips. And he we got him to the point where he was able to go home. She stayed with him, she was very devoted to him. And he died in the fire--third floor walk-up apartment and all that I think of with this lady was if there is a fire, she is dead. Because she weighs over 300 pounds and her grandson will never be able to get her down, as I can think of. It's one of those ethical situations where I had to make a recommendation, and

> she had the autonomy to decide. Then she finally knew…She wasn't angry but she just was not happy. [Tako1:588 - 595]

Tako made the other members of the health care team aware of her concerns by writing her assessment in the chart on postoperative day 1.

> A: Issues are the same as identified in ED (pre-op). Pt will have to be on W/C[wheelchair] level for mobility. Will be able to teach pt to do stand-pivot-sit transfers to and from w/c. Concern in pt living in 4th fl. Walk up - > If there were fire pt would be trapped. They need to consider short term placement while waiting for ankle to heal. Call placed to case manager. (Artifact Pt #13)

Health Care Professionals' Bias/Prejudice Related to Patient Care

Tako listed *prejudice* as one of the interfering factors for successful patient outcomes. She stated that ageism angered her most, among other forms of prejudices such as race, socioeconomic class, education, language, and culture. Tako described her recent encounter with ageism surrounding the 86-year-old woman who was previously described with all the significant, yet reversible, impairments.

> So I made the recommendation for rehab and somebody said to me, "Look at her, she is very kyphotic, and she has rheumatoid factors…She needs to go to a nursing home." So I said, "Have you talked to her?" "Oh, yeah, I talked to her." "She goes to college." "Yes, she does go to college." "She is not going to be able to go up and down the steps." "Well, she was doing the steps when she first came in." So they just made these assumptions, really ageism, just drove me crazy. And they didn't look at what was the etiology of the functional limitations, and what was the recoverability. What was permanent, what was rectifiable and…she was a feisty old lady, as she said. And she fought her own. [Tako1:325 - 326;329 - 338]

> But I think people make presumptions and making decisions, which I don't think it's very fair. [Tako1: 660]

In addition, Tako illustrated a scene of cultural prejudice, or possibly a deficiency in cultural competency, which lead to misunderstanding and misinterpretation. This type of misinterpretation could interfere with a successful patient outcome.

> [H]e was a Vietnamese, massive stroke which left him aphasic, hemianopsia and a whole bit. And his wife was there, she slept on the mat on the floor. He was expressively and receptively aphasic and when they …come to therapy, she would always be at least 2 feet behind. And would never talk…until he would even give her a sight. And they wrote in the chart that she was disinterested and not engaged in a care. She was absolutely devoted to the man. That was part of the culture; she walked behind him all the time and it was completely misconstrued. And…it was

> a social worker who wrote it on the chart. “What are you talking about?” “Well, that’s what I saw.” Well, I said, “Guess what sometime what you see is not what it is.” Rude. [Tako1: 661 - 673]

Limitations in PT’s Own Knowledge

Tako humbly described her limitations in her own knowledge. This awareness was clearly a sign of her use of metacognition in practice.

> I don’t know enough about it. I don’t know enough to help them…and sometimes I don’t know that I don’t know enough until after the fact, which is again a very humbling thing. I kind of always pray that I know before it’s too late so that I can ask for help. [Tako1:754 - 756]

When asked for examples, Tako came up with a situation in which physical therapy practice was modified by the development of a new anticoagulation regimen.

> [I]t happened last summer, managing the people with DVTs. The limitation of my knowledge was that they have to be successfully heparinized, and coumadinized before you get them up, and the limitation of my knowledge was that I wasn’t contemporary with the use of low molecular weight heparin, 5 hours you get them up and get them going because there is much less risk. And I thought, “Jeez.” But then you learn and take yourself from the head and you change your practice. [Tako1:761 - 764]

Perceived Influences in Tako’s Belief Formation

Definition of Successful Patient Outcome

Tako stated her definition of a successful patient outcome after her factor sort was completed. “That’s the patient achieves what they need to achieve to the best of their ability to regain control of their life within the confine of their disease or diagnosis” [Tako1: 528]. When she was asked whether her definition of a successful patient outcome remained the same since the beginning of her career, she immediately responded as the following.

> Oh, heck no. I think when you start practicing successful patient outcome is they did what you wanted them to do. [laughs] It’s all about you. And like, “Oh by the way, the patient was successful.” Successful patient outcome was that you kept everybody happy and you did what the doctor told you to do. Nobody got hurt and you discharged the patient in the right amount of days and I think…there is this evolution of what your role is in this big thing called health care system in the United States. And for me it really is an evolution and all the things that we used to hold onto and think so wonderful and successful, and they were just things. The wasted resources and the more therapy you got, the better. Didn’t matter if you got better, but more therapy you got, the better you would get. And it’s not true. So…I can’t tell you when it happened, but what…I love the most

> about being PT is not about me. I am so bored like people when it's all about them. And I don't think they are not good therapists, personally, and that is my bias. And I think of by virtue of how I was raised that, evolution to it's not about me. [Tako1: 533;536 - 548]

Similar to the above quote, the following made it evident that Tako was aware of herself evolving professionally. "And I think it evolves from me doing things to people, which makes me think all about me, to what can I help them accomplish which makes about them" [Tako2:57]. She admitted that her practice philosophy was essentially her own life philosophy: accomplishing for other people. She described a somewhat negative attitude towards technically minded therapists whose interests were what they do to their patients, rather than what they accomplish for their patients. "I think the true essence of professional practice is accomplishing things for people. You can do things to people and to me that is very technical" [Tako2:71 - 72].

Professional Experience

As stated in the previous section, Tako fully acknowledged the change of her beliefs over time with respect to successful patient outcomes. She described various levels of influences throughout her life in forming her beliefs, such as her upbringing, her teachers, and her colleagues. But one of her early patient care experiences appeared to have the most significant impact on her beliefs about successful patient outcomes. The experience had particular influence on her philosophical approach with respect to patient care and her positive attitude towards lifelong learning.

> Well, I'll tell you when it happened; it's when I broke my patient's leg... Doing range of motion. And I really learned that I had to forgive myself to what I didn't know today that I hadn't had the opportunity to learn. You have to forgive yourself for what you don't know from 3 weeks from now, but you have to promise that you'll learn it, and that's what I think…there is humility involved…Patients are wonderful teachers of humility. And I know that, so I think that it's really kind a cool thing. [Tako1: 549;551 - 554;556 - 557]

During her second interview, she acknowledged that sometimes it required courage to bring about a successful patient outcome. She described two patients whose living conditions and circumstances weren't nearly perfect. These encounters reinforced her philosophical approach with regard to patient care--accomplish for the patient, not for oneself.

> And you give somebody back as much of their life as you can, and then cut them loose, that's what we should be doing. That's successful outcome. You might not like what they are doing. I remember discharging somebody to the grate on the 12th and Market, because they were street persons. Were they safe enough to go back and live on the grate? Not where I chose, but that's all this person has, the guy I have now is blind, the girlfriend broke his leg by 2-by-4, he is, like, 71 years old, she was incarcerated. He is not safe to go back to his house and that

> situation…I'd love him to go home, but he said, "I can't do it," It's like, "OK, it's not about me." [Tako2:448 - 454]

In addition to what she learned directly from her patients, there was a preponderance of evidence in both interviews that she had lifelong learning habits by reading, asking why, and sharing what she learned through various teaching opportunities.

Personal Experience

Tako's personal experiences were significant in caring for her family members' illness and her upbringing as a Catholic and continuing to be a spiritual individual. When her family member had surgery, she gained an insight into the negative effects of trauma on the patient's ability to process information. But a more significant impact was when her aunt was steadily losing her independence due to multiple medical complications following a routine orthopedic surgery. While fully aware of the clinical benefits of breathing treatment, Tako experienced the more significant holistic values in listening to her aunt's desire and cherishing a moment together. She contrasted her values against the clinical values of her other family members brought into the care of her aunt.

> You noticed my sister is a nurse and my mom is a nurse, and they would always be like, rush, rush, rush, get this done, get this done, get this done. [My aunt] wouldn't do the breathing treatment because she hated it. So I said, "It's OK, …. Put your mask on and we'll do the puzzle," I would ask the question and fill it out. And,...it didn't cost me anything, but she was so appreciative of... she just died...I miss her. She taught me a lot. She struggled so to be happy. [Tako2: 402 - 408]

During her two interviews, Tako's sensitivity to injustice and indignity was evident. Tracing back, it appears, her sensitivity was heightened by her own experience of being discriminated against for her Catholic faith as she grew up. Then in her professional life, she observed various health care professionals' prejudices against their patients. Thus it was impossible for her not to be aware of her own family member suffering from indignities. Tako was determined to serve her patients to minimize their suffering from indignities. In the following excerpt, Tako is referring to her aunt's experience.

> And the body fell apart and the mind was as sharp as a tack. And there is a lot of indignities that she suffered that I am very sensitive to. And I think that's maybe one of the biggest lesson that the lack of control and the indignities and I just really want to shake my fists at that. And try really hard not to have people suffer those. And I think I do pretty good job with that, I think. [Tako2: 413 - 417]

Factor Sort Result

Tako ranked all five factors identical to the initial order in which she wrote them on the paper.

	Factors that facilitate successful patient outcomes	Factors that interfere with successful patient outcomes
1	*Knowledge of the etiology, pathology and prognosis for recovery given their impairments/functional limitations*	*Access to appropriate services*
2	*Establishing a "human" relationship that is based on compassion and professionalism*	*Prejudice*
3	*Knowledge of the person's role in life, their responses, abilities, dependencies, priorities*	*Social relationships/safety net*
4	*Courage to pay attention to emotional & spiritual needs*	*Limitations in my knowledge*
5	*Humor mixed with sincerity*	*Psychological impairments*
6		*Anger*

Potential Researcher Bias

After completing two interviews with Tako, one of the committee members offered a prediction that she might become an outlier because of her significantly more extensive professional history as compared to other participants, not only in clinical experience, but also in academics, and administrative practice. I did not agree with her, but I was considering that her data might be richer because of her extensive experience in various capacities. Tako possibly increased the range and the depth of the data by proving richer descriptions, but I didn't see her as an outlier. Actually, I perceived her influence on other staff members' beliefs through her academic teaching and workshops, as well as through her colleagueship (Reflective memo 7/31/03).

Throughout two sessions, the interviewer noticed Tako's courage and ability to be emotionally engaged in her practice while providing highly professional service. She revealed her emotions, such as anger and frustrations against injustice or prejudice on behalf of her patients.

Tako's description of her most memorable successful and unsuccessful cases were by far the most detailed and accurate, not only about the clinical details but also about who the patient was in his or her own life before being injured or hospitalized. But more amazingly, her documentation in her patient care notes was the most consistent with what she described during her two interviews among all 13 participants (Reflective memo 10/9/03).

Conclusion

Tako states that a PT's skill and knowledge, specifically *Knowledge of the etiology, pathology and prognosis for recovery given their impairments/functional* *limitations,* is the most important factor to facilitate successful patient outcomes. Both successful and unsuccessful cases illustrated the complex interactions among the patient's psycho-emotional needs and desires, the health care professional's responsibilities and use of clinical knowledge, along with Tako's practice philosophy: accomplishing for the patient, not for oneself.

As interfering factors for successful patient outcomes, Tako addressed the patient's lack of access to care, the lack of family support, psychological impairment, anger, health care professionals' prejudice, and the limitations in the therapist's knowledge.

Tako's beliefs about successful patient outcomes have changed over time. Both her professional and personal experiences influenced her belief formation. Among various influences in her professional life, the lessons learned from her patients appeared to be most significant. Other influences came from her colleagueship and her own lifelong learning through various sources. Her personal experiences were significant in her caring for her family member and her upbringing as a Catholic and continuation as a spiritual individual.